

Gordon Institute of Business Science

University of Pretoria

MBA 2017.2018

Business model innovation: antecedents, constraints and outcomes.

Zamashozi (Zama) James

26178240

A research proposal submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for a Masters in Business Administration

7 November 2018

Abstract

The purpose of this research was to investigate the antecedents, constraints and outcomes of internal business model innovation. Following an exploratory qualitative research design among 12 incumbent and entrepreneurial firms in the manufacturing and service industries in South Africa, a thematic analysis revealed new insights on antecedents, constraints and outcomes of internal business model innovation. These findings expand the emergent literature on business model innovation which had primarily focused on external antecedents, constraints and outcomes of business model innovation. The findings provide managers with insights on how to create an environment and conditions for business model innovation, identifying and overcoming constraints to benefit from the positive outcomes of business model innovation.

Key words: Business model, Business model innovation, Open innovation

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Table of contents

1	CHAPTER 1 BACKGROUND	7
1.1	Introduction	7
1.2	Research problem	7
1.3	Case for the study	7
1.4	Purpose of the study	8
1.5	Significance of the study	9
1.6	Scope of the research	10
1.7	Problem statement and objectives	10
1.8	Conclusion	11
1.9	Layout of the study	11
2	CHAPTER 2 LITERATURE REVIEW	12
2.1	Introduction	12
2.2	The Business model	13
2.2.1	Definition	13
2.2.2	Concept development	13
2.2.3	Topology	15
2.2.3.1	Value proposition	18
2.2.3.2	Value creation	18
2.2.3.3	Value capture	19
2.2.3.4	Value delivery	20
2.2.3.5	The nine-point decomposition	20
2.3	Innovation	21
2.4	Business model innovation	21
2.4.1	Definition	21
2.4.2	Concept development	22
2.4.3	The BMI process	22
2.5	Antecedents	23
2.5.2	Open innovation	25
2.5.2.1	Definition and meaning	25
2.5.2.2	Concept development	26
2.5.2.3	Open innovation drivers	26
2.5.2.4	Open innovation mechanisms	26
2.5.2.5	Open innovation process	27
2.5.3	Considerations relative to business model innovation	28
2.5.4	Entrepreneurship	28
2.5.5	Dynamic capabilities	28
2.6	Outcomes	29
2.6.1	Entrepreneurial firms	29
2.6.2	Incumbent firms	30
2.6.3	Considerations relative to business model innovation	31
2.7	Conclusion	31

3	CHAPTER 3 RESEARCH QUESTIONS	34
3.1	Introduction.....	34
3.2	Research question 1: Antecedents.....	34
3.3	Research question 2: Role, antecedents and constraints	34
3.4	Research question 3: Outcomes.....	35
3.5	Conclusion	35
4	CHAPTER 4 RESEARCH METHODOLOGY	36
4.1	Introduction.....	36
4.2	Research methodology and design	36
4.3	Universe/population.....	37
4.4	Sampling method and size.....	38
4.4.1	Sampling method.....	38
4.4.2	Sampling size.....	38
4.5	Unit of analysis.....	39
4.6	Data collection.....	40
4.6.1	Interviews (semi-structured).....	40
4.6.2	Measurement instrument.....	41
4.6.3	Piloting.....	41
4.7	Data analysis	42
4.8	Data trustworthiness	44
4.8.1	Reliability.....	44
4.8.2	Validity	44
4.9	Limitations.....	44
4.10	Ethical considerations.....	45
4.11	Conclusion	45
5	CHAPTER 5 RESULTS.....	46
5.1	Introduction.....	46
5.2	Characteristics of participants.....	46
5.3	Overview of results relating to key constructs	47
5.3.1	The business model.....	47
5.3.2	Business model topology	48
5.3.3	Business model innovation.....	49
5.4	Research question 1: Antecedents	50
5.4.1	Antecedents.....	50
5.4.1.1	Capabilities.....	52
5.4.1.2	Business model innovation process.....	53
5.4.2	Constraints.....	55
5.4.2.1	General constraints.....	55
5.4.2.2	Constraints in the open innovation context	57
5.5	Research question 2: Role, antecedents and constraints	58
5.6	Research question 3: Outcomes.....	59
5.7	Industry and firm type comparison	63
5.7.1	Similarities.....	63

5.7.2	Differences.....	65
5.8	Conclusion	65
6	CHAPTER 6 DISCUSSION.....	67
6.1	Introduction.....	67
6.2	Overview of results relating to key constructs	67
6.2.1	The business model.....	67
6.2.2	Business model topology	67
6.2.3	Business model innovation.....	68
6.3	Research question 1: Antecedents	68
6.3.1	Antecedents.....	68
6.3.1.1	Capabilities.....	70
6.3.1.2	Business model innovation process.....	71
6.3.2	Constraints.....	72
6.3.2.1	General constraints.....	72
6.3.2.2	Constraints in the open innovation context	73
6.4	Research question 2: Role, antecedents and constraints	74
6.5	Research question 3: Outcomes.....	75
6.5.1	Entrepreneurial firms.....	75
6.5.2	Incumbent firms.....	76
6.6	Industry and firm type comparison	78
6.7	Conclusion	80
7	CHAPTER 7 CONCLUSION.....	83
7.1	Introduction.....	83
7.2	Principle findings	84
7.2.1	Antecedents.....	84
7.2.1.1	Capabilities.....	85
7.2.1.2	Business model innovation process.....	85
7.2.2	Constraints.....	86
7.2.2.1	General constraints.....	86
7.2.2.2	Constraints in the open innovation context	86
7.2.3	Outcomes	87
7.2.3.1	Entrepreneurial firms.....	87
7.2.3.2	Incumbent firms.....	87
7.3	Expanded conceptual framework	88
7.4	Implications for management	89
7.5	Limitations of the research	89
7.6	Suggestions for future research	90
7.7	Conclusion	90
8	REFERENCE LIST	91
9	ANNEXURE A: CONSISTENCY MATRIX	103
10	ANNEXURE B: MEASUREMENT INSTRUMENT	104

11 ANNEXURE C: SAMPLE OF CODES 105
12 ANNEXURE D: ETHICS CLEARANCE LETTERS..... 106

1 CHAPTER 1 BACKGROUND

1.1 Introduction

This research deals with business model innovation: antecedents, constraints and outcomes. The study explores the business model innovation phenomenon in the setting of entrepreneurial firms and incumbent firms from South Africa in the services and manufacturing industry. The antecedents, constraints and outcomes of internal business model innovation are identified and outlined.

1.2 Research problem

Business is increasingly perceived to succeed at the expense of society (Kazmi, Leca, Naccache, 2015). In South Africa for example, a recent survey among large companies conducted by the Ethics Institute suggests that companies prize short term profits versus long term value creation (Groenewald, 2016). Despite efforts, business has been unable to sway sentiments (Mazutis, Slawinski, 2015). In addition, Mazutis and Slawinski, (2015) argue that the age old economic theory of self-interest contributes to this perception. Adding to this challenge is the simultaneous expectation for business to take the lead in alleviating social and economic ills (Scherer, Palazzo, Matten, 2014).

Abdelkafi and Täuscher (2016) emphasise the importance of transfiguring the business rationale in attaining business sustainability. Similarly, Schaltegger, Freund, Hansen, Erik (2016) indicate that the improvement of business performance and overall sustainability is said to require significant reconfigurations to the business model. With dynamism and uncertainty an ever present aspect of business (Sánchez, Ricart, 2010), business model innovation (hereinafter "BMI") is key to ensuring competitive edge (Wirtz, Pistoia, Ullrich, Gottel, 2016).

1.3 Case for the study

Business is important for the growth of the economy (Schaltegger, Freund, Hansen, 2016). This is true in the context of small business and corporates (Memili, Fang, Chrisman, Massis, 2015). Kalak and Hudson (2015) indicate that the role of small

business is employment, growth and innovation in the context of the greater economy. In the United States of America for example, small business formed over 90% of employers as at 2011 and accounted for over 60% of new job creation (Kalak, Hudson, 2015). The South African banking association estimates that small to medium business form 91% of official businesses, are a source of employment to about 60% of people in the labour market and make up 34% of Gross Domestic Product (The Banking Association of South Africa, 2017). Based on this, the importance of business to the growth of the economy is clear.

Innovation among entrepreneurial firms is said to be vital for economic growth (Huggins, Thompson, 2015). Kumar, Nandakumar, Ghobadian, Duaneireland, Regan, (2018) also suggest that there is a beneficial influence of business model novelty on smaller SME performance. Yet, despite success cases and advantages prevailing for the SME business, the failure rate of entrepreneurial firms remains high, with evidence that it may be in the region of 90% (Olaison, Sorensen, 2014). Trends in recent times have led to growth by acquisition among corporates (Lebedev, Peng, Xie, Stevens, 2015). These acquisitions are often accompanied by retrenchments cause an end to the existence of SMEs, which are for many are the only source of employment (Kalak, Hudson, 2015).

Business model innovation is said to better the long term performance (Pedersen, Gwozdz, Hass, 2016) and profitability (Love, Vather, Roper, 2013) of business. In addition, business model innovation is said to lead to competitive edge (Wirtz, Pistoia, Ullrich, Gottel, 2016). Thus the importance of the phenomenon as an avenue for the survival and competitiveness of small to medium enterprises and business in general. Additionally, this concept is thus relevant for the growth of the economy and employment.

1.4 Purpose of the study

The purpose of this study is to gain new insights relating to antecedents, constraints and outcomes of business model innovation. Thus the overarching question of the research is, ***what are the antecedents, constraints and outcomes of internal business model innovation?*** Studies in terms of antecedents and constraints to business model innovation have mainly focused on external conditions (Ferreira,

Proença, Spencer and Cova, 2013). Moreover, studies with empirical basis regarding the antecedents and constraints to business model innovation are lacking (Foss and Saebi, 2017).

Existing literature regarding constraints to business model innovation are predominantly focused on the prevailing logic and the profitability of the existing business model (Linder and Williander, 2017; Chesbrough, 2010). Furthermore, the performance outcomes of business model innovation are under explored (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun and Gu, 2014). In addition, Cucculelli and Bettinelli (2015) indicate that further research is required on the outcomes of business model innovation among entrepreneurial firms.

1.5 Significance of the study

Existing literature suggests that the business model innovation literature is largely emergent and lacks empirical enquiry and theoretical base (Foss, Saebi, 2017). Furthermore, the focus among studies has been on the business model as a framework for analysis (Carayannis, Sindakis, Walter, 2014). Studies which aspire to move the body of work on business model innovation toward theory with implications are largely absent (Foss, Saebi, 2017). By studying the antecedents and outcomes of business model innovation, this study would contribute to the gap that exists in this regard (Foss, Saebi, 2017).

Foss and Saebi (2017) suggest that the literature on open innovation is helpful in discovering new insights on internal antecedents to business model innovation. In addition, the literature on open innovation has been prone to ignoring the importance of the business model (West, Bogers, 2014). In addition, West and Bogers (2014) assert that commercialising innovations highlight the creation of value versus the capture of value from innovations. Given that there is a gap in literature as to why companies gain markedly from open innovation (Saebi, Foss, 2015) this study would contribute and add to the emergent literature which seeks to link open innovation to the business model components.

1.6 Scope of the research

The primary focus and restriction of the study is unlocking insight relating to the antecedents, constraints and outcomes of internal business model innovation. This study focused on the service and manufacturing industries, where the element of service is said to be a driver for business model innovation (Karpen, Bove, Lukas, 2012; Velamuri, Bansemir, Neyer, Moslein, 2013). Non-probability (exploratory purposive) sampling will be utilised to select a sample from South Africa, owing to the dynamic economic environment which is rich in potential for insight in emerging markets where the impact of this nature of study would be most pertinent (Baden-Fuller and Morgan, 2010). The study shall utilise an exploratory, qualitative design with semi-structured interviews to extract maximum insight.

Previous research suggests that one of the aspects that has hindered cumulative development is the lack of dimensionising and definition of the BMI construct (Foss, Saebi, 2017). In order to overcome this, the construct of BMI shall carry the meaning as defined in chapter two.

1.7 Problem statement and objectives

The context as outlined above culminates in the research title as follows; Business model innovation: antecedents and outcomes.

The main objective of the study is to explore the antecedents, constraints and outcomes of internal business model innovation. The related sub-objectives are thus as follows:

Antecedents

- I. To understand what the antecedents to internal business model innovation are.

Constraints

- II. To investigate the constraints to internal business model innovation.
- III. By exploring business model innovation in the context of open innovation, the objective was to uncover new insights on the role of the business model in open innovation as well as antecedents and constraints applicable in this context.

Outcomes

- I. To understand what the outcomes of business model innovation are.

1.8 Conclusion

The existence of negative perception, the expectation for business to be more societally conscious and the resulting environmental dynamism has marked the landscape for, and the importance of business model innovation. Furthermore, the importance of business model innovation from a business survival and competitiveness perspective has been established. Additionally, the role of business in the growth of the economy, particularly in emerging markets has underscored the business case for the study. This study thus seeks to explore the antecedents, constraints and outcomes of internal BMI. The aspect of open innovation is said to have potential to shed insight on internal business model innovation constraints. In addition, the exploration of this permits the exploration of the role of the business model in open innovation. This study was intended to contribute to the BMI literature which is emergent and lacking theoretical and empirical basis.

1.9 Layout of the study

Subsequent to this chapter, this study will present the following key sections; chapter two, which outlines a review of the literature on the pertinent aspects of the research title. Chapter 3 will detail the research questions related to the key objectives as outlined the results. Chapter 6 will provide a discussion of the results and related implications. The final chapter (chapter 7) will discuss key conclusions and suggestions for future research.

2 CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

An overview of the relevant literature is provided in this chapter. Business model innovation is associated with the literature on the business model (Foss, Saebi, 2017), therefore this construct is discussed. The innovation construct and implications for business model innovation is outlined. Thereafter, business model innovation as the phenomenon under study is discussed including definitions, concept development, topology and process.

As stated in chapter one, the objective of the study is to discover new insights to internal business model innovation antecedents and outcomes. It is suggested that the literature on dynamic capabilities and open innovation is useful in discovering new insights on internal antecedents of business model innovation (Foss, Saebi, 2017; Foss, Saebi, 2015). Entrepreneurship is closely linked to business model innovation literature (Foss, Saebi, 2016). The role of business model innovation in the open innovation context is said to have potential in shedding light to antecedents and constraints (Foss, Saebi, 2017; Berglund, Sandström, 2013). Therefore, an overview of both literature is outlined. Finally, business model innovation outcomes are discussed. The taxonomy of the literature review is illustrated below.

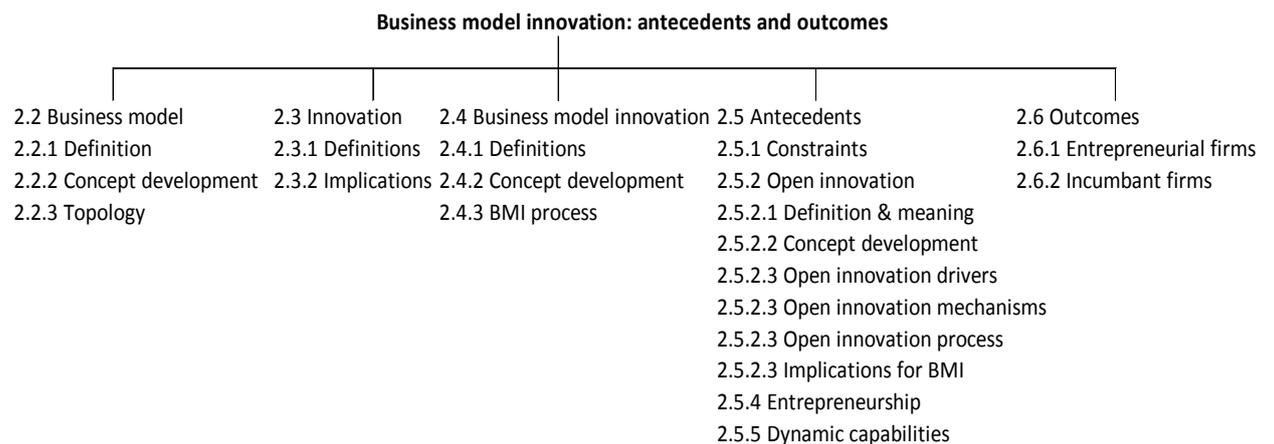


Figure 1: Taxonomy of the literature review

2.2 The Business model

2.2.1 Definition

The definition, as well as the historical development of the concept business model has been divergent in literature (Zott, Amit, Massa, 2011; Wirtz, Pistoia, Ullrich, Gottel, 2016; George, Bock, 2011), yet the concept has featured in literature for more than six decades (Wirtz et al, 2016). Teece, (2010) argues that the existence of the business model is as old as pre-classical times. The latter argument is sensible if considered from a practice perspective and the context of the business model referring to the rationale of a business's activities (Aspara, Lamberg, Laukia, Tikkanen, 2013).

Among the perspectives that exist on the concept is the resource based view. This perspective contends that the business model refers to how resources are integrated to produce value (DaSilva, Trkman, 2014). In contrast to the resource based view, recent studies refer to the concept as a structure through which a business arranges related undertakings that it implements and the manner in which the undertakings interlink (Amit, Zott, 2015). The latter view alludes to the associations between activities.

Foss and Saebi, (2017) suggest a convergence toward a unified meaning for this term has become evident in recent literature. They assert the term refers to "design or architecture of the value creation, delivery and capture mechanisms" of a firm (p. 201). Therefore the term business model shall carry this meaning for this study.

2.2.2 Concept development

Zott, Amit, Massa, (2011) provide an overview of the academic work conducted on the concept of the business model as well as the various viewpoints from which the concept has been applied. The study underscores the fragmentation concerning the business model concept, with the implication that development of the definition is divergent. According to Wirtz et al (2016), the divergence emanated from three fields of literature namely technology, organization and strategy.

The divergence resulting from the three streams of literature is illustrated in table 1 below. The technology and strategy fields were the dominant streams of literature with only a few studies making reference to the organisational perspective (Wirtz et al,

2016). Further studies suggest similar differences across the three streams and to some degree the misapplication of the term (DaSilva, Trkman, 2014; Ritter, Lettl, 2018). Research suggests that the first use and meaning of the term originates from the technological field and refers a depiction of reality (DaSilva, Trkman, 2014; Teece, 2010). DaSilva and Trkman, (2014) as well as Teece, (2010) suggest the increase in use of the term was during the dot.com bubble. The term was predominately used for explaining how potentially profitable ventures (dissimilar to prevailing business logic), technology related or otherwise, came into being. It is suggested that the term then transcended the dot.com period and came to be used as a unit of analysis for business universally (DaSilva, Trkman, 2014; Teece, 2010).

Recent studies indicate a convergence toward a common meaning for the term business model (Teece, 2010; Saebi, Foss, 2015; Wirtz, Pistoia, Ullrich, Gottel, 2016; Saebi, Foss, 2017). According to Wirtz et al, (2016) in two of the three main streams of literature, the business model refers to a depiction of a company. Similarly Zott et al, (2011) reveal a rising instance of literature consisting of common themes in the business model literature as follows.

- a) "The business model as a unit of analysis;
- b) firm activities as a vital aspect to the business model;
- c) business models as entailing both value creation and capture" (p. 8).

Among the key highlights of their study, is the universal understanding of the term as the logic or approach to business. Similarly, Øiestad and Bugge, (2014) refer to the business model as the aptitude to create and capture value. When comparing these definitions, a theme is evident. The highest level of variance still prevails when comparing the technology and organisation literature versus the strategic field. In strategy the term describes the competitive advantage of a company (Wirtz et al, 2016). For the purpose of this study, strategy shall be distinguished from the business model in line with Wirtz et al, (2016) description, which contends that strategy refers to the course a firm will undertake in the long term.

	Levels of the business model	Perspective on the business model
Divergent stream	Technology	Minor portion of a company
	Organisation	Interfaces of company variables
	Strategy	Tool for depiction of a company's competitive advantage
<hr/>		
	Levels of the business model	Perspective on the business model
Convergent stream	Technology	Depiction of a company
	Business	Tool for depiction of the complete company
	Company	
	Strategy	Tool for depiction of a company's competitive advantage

Table 1: Synopsis of BM literally streams and perspectives, interpreted from Wirtz, Pistoia, Ullrich, Gottel, (2016).

2.2.3 Topology

Early studies related to components of the business model were disparate (Rayna, Striukova, 2016). For example value, financial features and design of the network of the firm and exchange partners are evident in a study by Zott et al, (2011). In contrast, the ontology in the strategic stream of literature consists of three main constructs, the interconnected nature of value creation, the relationship between the business model and performance as well as the differentiation of the business model from various strategic concepts (Richardson, 2008; Teece, 2010; Zott and Amit, 2008).

Despite the divergence that existed in the meaning of the term (Rayna, Striukova, 2016), recent studies indicate a convergence relating to the components or topology of the business model (Saebi, Lien, Foss, 2016). The components and interlink between elements of the business model is said to be the key in building theoretical and empirical base in the emergent field of business model innovation literature (Wirtz, Pistoia, Ullrich, Gottel, 2016; Foss, Saebi, 2017; Brea-Solis, Griffel-Tatjie, Casadesus-Masanell, 2015). The identification of the components enables the analysis of each

component and allows the interactions and relationships between independent components to be understood in context (Landau, Karna, Sailer, 2016). Based on a review of the literature relating to the topology of the business model, four components of the business model were identified and summarised by author and stream of literature in table 2 below. Each component is then discussed individually in the subsequent sections.

Authors and field of literature	Field of literature	Synopses of <u>value proposition</u> per author
Brea-Solis, Griffel-Tatjie, Casadesus-Masanell, (2015)	<i>Strategy</i>	Lower prices and customer experience, centered on the value of a friendly environment is emphasised as a basis for competitive advantage.
Chesbrough, (2010) Teece, (2010)	<i>Technology</i>	Where options are abundant for consumers, superior value proposition in the business model of companies is underscored.
Taran, Boer, Lindgren, (2015)	<i>Decision science</i>	
Authors and field of literature	Field of literature	Synopses of <u>value creation</u> per author
Tantalo and Priem (2014)	<i>Strategy</i>	The novel of value harmonies across various stakeholders unlocks great strategic potential. The notion of value under the pretext of this framework contains an innate sense of stakeholder value for the individual stakeholder while allowing simultaneous value between stakeholders.

Priem, Wenzel Koch, (2018)	<i>Strategy</i>	Value creation focuses on creating gains.
Hiennerth, Lettl, Keinz, (2014)	<i>Product innovation/ technology</i>	Unlocking synergies.
Baden-Fuller, Haefliger, (2013)	<i>Technology</i>	Meeting customer expectations and ensuring gratification.
Demil, Lecocq, Ricart, Zott, (2015)	<i>Strategic entrepreneurship</i>	
Massa, Tucci, Afuah, (2017)	<i>Management</i>	
Authors and field of literature	Field of literature	Synopses of <u>value capture</u> per author
Priem, Wenzel Koch, (2018)	<i>Technology</i>	Value capture is concerned with the profitable distribution of the value created.
Kohler, (2015)	<i>Technology</i>	Conversion of value created to profits.
Spieth, Schneckenberg, Ricart, (2014)	<i>Management</i>	Increase in the market share created as a result of the business model.
Author and field of literature	Field of literature	Synopses <u>value delivery</u> per author
Cortimiglia, Ghezzi, Frank,	<i>Management</i>	Value dissemination.

(2016)		
Günzel, Holm (2013)	<i>Innovation</i>	Encapsulates customer relationships, segments and channels.

Table 2: Summary of Business Model topology by author

2.2.3.1 Value proposition

Brea-Solis, Griffel-Tatjie and Casadesus-Masanell, (2015) produced a business model configuration building on from the work of Casadesus-Masanell and Ricart, (2011), which is anchored on the concept of choices and consequences. By way of analysis of Walmart, Brea-Solis et al emphasise the importance of the value proposition. They highlight the lower prices and customer experience, centered on the value of a friendly environment as a basis for Walmarts' competitive advantage. Similarly, Chesbrough (2010) underscores the value proposition as a key component although in a different context by analysis of the Xerox Corporation. Chesbrough, (2010) suggests a more detailed synopsis of the business model components, highlighting among others networks, positioning, cost structure as part of the topology of the business model.

In the context of a fast paced, technologically advanced and open trading global economy where options are abundant for consumers, Teece, (2010) emphasises' the importance of a superior value proposition in the business model of companies. The component of value proposition in the business model is evident in the context of companies who innovate their business model (Taran, Boer, Lindgren, 2015).

All these studies evidence and reinforce the emergence of value proposition as a component to the business model.

2.2.3.2 Value creation

A study conducted by Tantalo and Priem (2014), explores value creation by utilising the stakeholder theory framework. The novel of value harmonies across various stakeholders unlocks great strategic potential. The notion of value under the pretext of this framework contains an innate sense of stakeholder value for the individual

stakeholder while allowing simultaneous value between stakeholders. The importance of value creation in terms of the business model concept is further emphasised by Priem, Wenzel, Koch, (2018) who argue that value creation focuses on creating gains. The concept of value creation ensconced itself in the business model literature with the advent of the internet age, where co-creation of value became commonplace (Hienerth, Lettl, Keinz, 2014). Other studies relating to the business model relate to the significance of meeting customer expectations and ensuring gratification (Baden-Fuller, Haefliger, 2013; Demil, Lecocq, Ricart, Zott, 2015; Massa, Tucci, Afuah, 2017). The point which these authors are alluding to is the importance of creating worth through whatever activities the firm undertakes.

The theme of value creation transcends the various streams of literature across strategy, innovation, management and technology. In addition, a theme of alliance emerges relating to value creation, this is evidenced in the use of stakeholder theory in the concept of value creation (Tantalo, Priem, 2014). Similarly Lehoux, D'Amours and Langevin (2013) illustrate the importance of collaboration as a basis for value creation. According to Lehoux et al (2013), there are many essential reasons for inter firm collaborations including sharing of costs, increasing competitiveness, sharing of risk, economies of scale among others. Collaboration is motivated by the expectation of a particular benefit, thus leading to value whether for customers, the firm itself, other companies or all parties involved.

2.2.3.3 Value capture

Priem, Wenzel Koch, (2018) suggest that value capture is concerned with the profitable distribution of the value created. However, Kohler, (2015) indicates that capture of value in the context of the business model is concerned with the conversion of value created to profits. These studies focus on value capture in the context of crowdsourcing in the technology space. Spieth, Schneckenberg, Ricart, (2014), refer to value capture as an increase in the market share created as a result of the business model. The difference in the studies is minor, as the theme of profits is apparent in both studies. On aggregate the key points articulated by the studies is the fact that value capture relates to the commercialisation of the created value.

2.2.3.4 Value delivery

Value delivery in the context of the business model is said to be value dissemination (Cortimiglia, Ghezzi, Frank, 2016). This in essence is how the value that is created and captured reaches the intended users or customers. Cortimiglia et al (2016) suggest that value delivery includes distribution and delivery channels. Scholars such as Osterwalder and Pigneur are among the earlier scholars to identify the component of value delivery as forming part of the business model. Similarly, Günzel and Holm (2013), refer to the business model canvas, wherein value delivery is identified as a component. According to Günzel and Holm (2013), the value delivery component encapsulates customer relationships, segments and channels. Overall a nuanced similarity in the description of the components prevails when comparing the two studies.

2.2.3.5 The nine-point decomposition

According to Cortimiglia et al (2016) the classification of business model components is important as it allows analysis and insight that is valuable to industries and business from a single unit. Thus, for this study, Osterwalder's nine-point decomposition of the business model will be utilised as a lens for analysis. The justification of the selection lies in the inclusion of further components which are relevant, while still incorporating the elements identified from the overview detailed above. Chesbrough, (2010) indicates Osterwalder's nine-point decomposition of a business model includes "key activities, partner network, key resources, cost structure, value proposition, client relationships, client segments, distribution channels and revenue flows" (Pg.359) as illustrated in figure 2 below. The inclusion of the partner networks component is particularly important as a lens for analysis in the context of this study.

Frameworks for business model innovation such as Osterwalder's nine-point decomposition of a business model have led to effective means through which current business models are evaluated (Chesbrough, 2010). Therefore, the additional components will ensure richness of insight as a unit of analysis.

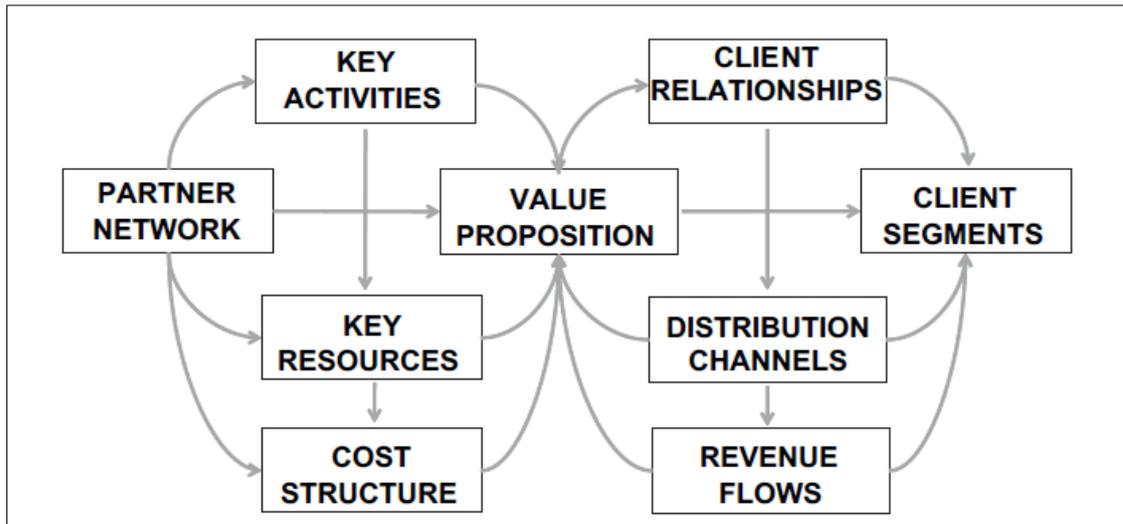


Figure 2: Osterwalder's "nine-point decomposition of a Business Model" (p.359).

Source: Chesbrough, (2010).

2.3 Innovation

Innovation is said to result in competitive edge and is associated with improving economic performance (Huggins, Thompson, 2015), further alluding to its relevance to this study. Similarly, Guan, Chen 2012 suggest that innovation is important for sparking growth in the economy. Among the types of innovations is organisational innovation, which refers to the adaptation of essentially new approaches to how the business is managed internally and new ways in how the business interacts with the outside setting (Camisón, Villar-López, 2014). Innovation in the business model aspect is further discussed in section 2.4 below.

2.4 Business model innovation

2.4.1 Definition

Studies on this concept have been imprecise in defining the term (Schneider, Spieth, 2013). Schneider and Spieth (2013) also emphasise the insufficient cohesion in the definitions that had been provided in studies on the concept. However, Teece (2010) sums the concept of business model innovation as the financial and organisational

arrangement of the business. Studies define the concept as the act of unearthing an essentially new business model for an existing business (Spieth, Schneckenberg, Ricart, 2014; Abdelkafi, Makhotin, Posselt, 2013). Remane, Hanelt, Tesch and Kolbe (2017) review BMI literature and identify at least three streams of BMI. These include information systems, strategy and technology, all offering varying definitions. This affirms the assertions of Schneider and Spieth (2013) in that unity in the definition of the concept was lacking.

Similarly, Foss and Saebi (2017) argue that construct clarity is lacking in relation to business model innovation. They suggest that construct clarity for BMI is reliant on clarity concerning the business model. They suggest a definition for business model innovation as follows; "designed, novel, and nontrivial changes to the key elements of a firm's BM and/or the architecture linking these elements" (Pg.216). For the purpose of this study, business model innovation is defined in accordance with definition.

2.4.2 Concept development

Recent studies indicate an increase in focus on the concept of BMI (Ritter, Lettl, 2018; Gerasymenko, Clercq, Sapienza, 2015). Spieth et al (2014) further suggest that the concept of BMI is lacking in the area of delineation and clarity, thus presenting both opportunities and limitations for further study. It is said that the clarity of construct and linking of relationships between components is important in development of the BMI literature (Foss, Saebi, 2017). However, studies showing linkages between components and architecture are lacking (Velamuri, Bansemir, Neyer, Moeslein, 2013). In addition, empirical basis regarding the antecedents and constraints to business model innovation are lacking (Foss, Saebi, 2017). The increase in focus and the current gaps in literature development render this field largely emergent (Bucherer, Eisert, Gassmann, 2012).

2.4.3 The BMI process

The early studies on the BMI process identify two types of approaches, a rigid process or one that is flexible. The flexible process is one that is organic in nature and reliant on the philosophy of the business, whereas the rigid process is systematic and procedural with identified steps in the process (Günzel, Holm, 2013). Martins, Rindova

and Greenbaum (2015) present a process through which BMI can be conducted on a proactive basis, which combines a creative or “conceptual” and systematic approach. Martins et al (2015) argue that BMI can be undertaken by way of a four step process (applicable for both creative and systematic approaches).

Step 1 identify a concept that can be applied to the current business model;

Step 2 contrast the identified notion to the current business model to explore elements of the concept that could be applied to the current business model to improve it.

Step 3 integrate the useful aspects of the concept to the current business model;

Step 4 adjust the useful elements of the concept accordingly to align with the context of the current business model.

They further distinguish between the two approaches by indicating that the conceptual approach compares a concept and the current business model, however focuses on variances between the two as opposed to likenesses. Martins et al (2015) emphasise a proactive approach to BMI that is not as a result of a response to a change in the market. Similarly Dmitriev, Simmons, Truong, Palmer, and Schneckenberg, (2014) suggest that the process of BMI should be a continual one. Their perspective on the process of BMI is one which involves constantly making adjustments to the business model components. Velu and Jacob, (2014) contend that the process of BMI involves reconfiguring the basis for competitiveness. They further indicate that systemic changes are employed when the process is undertaken. In contrast Guo, Su and Ahlstrom (2016) argue that the process of business model innovation is one which requires constant experimentation, exploration and a spirit of entrepreneurship to enable and foster the experimentation process.

2.5 Antecedents

The recent surge of attention in the business model innovation phenomenon raises an important question as to what the drivers for business model innovation are (Foss, Saebi, 2017). To this end, the work of Calia, Guerrini, and Moura (2007) illustrates how technological innovation can prompt alterations to the commercial and operational structure of an organisation, thus the business model. This argument by Calia et al (2007) makes sense as it reinforces the point advanced by Chesbrough (2010). Chesbrough (2010) argues that technology on its own has no inherent value, further

efforts need to be employed by the business in order to realise commercial success. Björkdahl (2009) utilises the business model concept in examining technology diversification and cross fertilisation efforts. Björkdahl (2009) argues that a revised business model is required for value capturing when new products become available.

Further reasons for business model innovation are said to be due to the increasingly dynamic and complex environment in which businesses operate (Lee, Shin, Park, 2012; Wirtz, Pistoia, Ullrich, Gottel, 2016). In contrast, other scholars contend the reason for business model innovation is as a result of the pace of technology and the impact to the behavior of consumers (Wirtz, Schilke, Ullrich, 2010). Günzel and Holm (2013) provide a variety of reasons and drivers for BMI. Among the reasons provided by Günzel and Holm (2013) is the prospect for growth in size and market share. In addition they suggest that firms undertake BMI as a means to identify new market avenues. They highlight competitive advantage and increased value creation as one of the reasons companies embark on BMI. The literature on business model innovation further suggests that the antecedents and drivers to this phenomenon are cost reduction, process improvement, new products, market penetration and financial gain (Foss and Saebi, 2017).

There is a predominant focus on external conditions relating to BMI antecedents (Ferreira, Proença, Spencer, Cova, 2013). This theme is also evidenced in the literature reviewed above. Thus calling for this study, which seeks to discover new insights on the internal antecedents of BMI.

2.5.1 Constraints to business model innovation

Among the key constraints to business model innovation is the prevailing business model and the reluctance among managers to experiment with a new business model (Chesbrough, 2010). This reluctance, is attributed to the dominant logic on value creation. Chesbrough (2010) further elaborates on the conflict that exists between the current assets of the business as one of the key barriers to business model innovation. Similarly Kim and Min (2015) emphasise the potential conflict of existing assets with a new business model as a barrier.

Linder and Williander (2017) uncover various constraints to business model innovation in the context of a circular business model. They argue that because business model innovation requires testing, which involves third parties, there is inherent risk as a barrier. In addition, Linder and Williander (2017) suggest that business model innovation requires capital expenditure which is often a challenge for the entrepreneur. Patala and Laukkanen (2014) study the concept of barriers to business model innovation, and uncover structural barriers and culture. The outcome of Patala and Laukkanen (2014) study emphasizes similar barriers as those highlighted by Linder and Williander (2017) as well as Chesbrough (2010), these include financial risk, dominant logic and capital constraints. Studies also suggest the slow rate of adoption of the concept of business model innovation as a barrier (Patala, Laukkanen, 2014).

2.5.2 Open innovation

It is suggested that the literature on open innovation is useful in discovering new insights on internal antecedents of business model innovation (Foss, Saebi, 2017; Foss, Saebi, 2015). They further suggest that there are constraints in business model innovation that result in this context due to conflicting demands that may exist in these network relationships. In this section, an overview of the concept is provided and implications on business model innovation antecedents and outcomes discussed.

2.5.2.1 Definition and meaning

Early literature defines open innovation as the influxes and discharges of knowledge to hasten the innovation of a firm, as a means to attain market gains (Chesbrough, 2014). Recent literature identifies inbound or "outside-in open innovation" (p.4) (West, Bogers, 2014). This, in essence is the utilisation of a firms existing assets to benefit or profit from an external innovation (Salter, Vanhaverbeke, Chesbrough, 2014). Conversely, Du, Leten, Vanhaverbeke, (2014) identify open service innovation. Open service innovation is said to be when external knowledge is sought and leveraged and when internally produced knowledge is leveraged. The concept of coupled innovation is described as the leveraging of a mixture of knowledge flowing inward and outward (Henkel, Schöberl, Alexy, 2014; Lichtenthaler, 2015). Outbound open innovation or inside-out is when a firm transmits internal information to the outside environment (Lichtenthaler, 2015).

2.5.2.2 Concept development

The concept of open innovation said to be founded on a four-step process that enables the leveraging of an external innovation (West, Bogers, 2014). According to West and Bogers (2014), the concept of open innovation has its roots in the encouragement of firms to move away from the conventional approach of an internal R&D department to launching innovations. The traditional approach of an R&D department is currently referred to in literature as closed innovation or proprietary innovation (Appleyard, Chesbrough, 2017).

2.5.2.3 Open innovation drivers

Salter et al (2014) suggest that the key incentives of open innovation are access to innovations an organisation would not have otherwise had and leveraging economies of scale. In contrast Du, Leten, Vanhaverbeke, (2014) argue the incentive for open innovation is agility in the face of complex markets and the prospect of equitable spread of risks. Mina, Moreau, Hughes, (2014) however suggest that open innovation incentives are inclined toward internal challenges such as the difficulty in commercialising innovations. Open innovation among incumbent firms has been directed toward inside out innovation where firms make use of internal assets to commercialise external innovations (Brunswick, Chesbrough, 2018).

2.5.2.4 Open innovation mechanisms

The mechanisms through which external innovations are leveraged are multipronged and include acquisition, assimilation, integrating and exploiting (Kim, Kim, Foss, 2016). In contrast Felina and Zenger (2014) indicate that the various forms of open innovation include partnerships, platforms, contracts and community. In contrast, open innovation that relates to projects leans primarily on consumers for partnering purposes (Brunswick, Chesbrough, 2018). Therefore, one can conclude that open innovation forms are versatile and can take a variety of forms depending on context.

2.5.2.5 Open innovation process

The process of open innovation involves sourcing innovations, incorporating the innovation into the firm, deriving financial benefit and coordinating the relationship between the firm and the source of the innovation (Ahn, Ju, Moon, Minshall, Probert, Sohn, Mortara, 2016; West, Bogers, 2014). In West and Bogers (2014) review of open innovation studies, the majority of studies are focused on two steps of the open innovation process, namely sourcing and incorporation of the innovation.

Open innovation studies have mainly focused on incumbent firms, however recent studies have been directed toward entrepreneurial firms (Freel, Robinson, 2016). To this end, Colombo, Piva, Lamasra (2014) conducted a study for the purpose of investigating the point at which entrepreneurial firms are able to exploit open innovations. Colombo et al (2014), acknowledge that entrepreneurial firms are often constrained in terms of resources, and thus diversify as a means to ensure economic survival. The study specifically seeks to identify factors that hamper this process as well as factors that are enablers of this process. The main outcome in relation to factors that inhibit this process is firm size. In brief the larger the firm the less likely it is to easily exploit the open innovation network. In general the findings suggest that the smaller the firm the higher the chances that the firm will diversify. Similarly, Freel and Robinson (2016) suggest that the resource limitations that often face entrepreneurial firms inform the open innovation approach. They argue that entrepreneurial firms are likelier to use less stringent forms of intellectual property protection when compared to incumbent firms.

Autonomy contributes to the assimilation of skill and knowledge that allows entrepreneurial firms to better exploit open innovation networks to become more economically proficient. In contrast, a study conducted by Garbardella and Panico (2014) suggests that the power dynamic between the parties is a vital factor affecting the ability of each party to fully exploit the open innovation. Garbardella and Panico (2014) contend that the party who assumes the most control over the assets in the open innovation gains the advantage. According to Garbardella and Panico (2014), the party who holds the decision-making power is the likelier to better exploit the open innovation network.

2.5.3 Considerations relative to business model innovation

Open innovation is largely absent on how the elements of the business model are innovated to successfully profit from and incorporate external innovations (West, Bogers, 2014). Furthermore, the aspect of how external innovations are aligned to the existing business model is not adequately addressed in the existing literature (West, Bogers, 2014). The drivers of open innovation are access to innovations (Salter et al, 2014), agility (Du, Leten, Vanhaverbeke, 2014), internal challenges such as the difficulty in commercialising innovations (Mina, Moreau, Hughes, 2014). These drivers provide early clues on possible internal antecedents to business model innovation. However, business model innovation literature lacks empirical basis on antecedents thus this study (Foss, Saebi, 2017). Foss and Saebi, (2017) suggest that the literature on entrepreneurship and dynamic capabilities is helpful in discovering insights on business model innovation, thus the sections below discuss this.

2.5.4 Entrepreneurship

Huggins and Thompson (2015) suggest that entrepreneurship is a catalyst for innovation as well as firm success and expansion. In addition, Huggins and Thompson (2015) indicate that entrepreneurship is progressively credited with growth. However, current research on business model innovation suggests that outcomes of business model innovation among entrepreneurial firms are underexplored (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun, Gu, 2014; Cucculelli, Bettinelli, 2015), thus this study.

2.5.5 Dynamic capabilities

The research relating to dynamic capabilities suggests that firms that possess certain capabilities are likier to have competitive edge and as a result will experience better performance (Camisón, Villar-López, 2014). In addition Camisón and Villar-López (2014) argue that these capabilities often catalyse innovation, particularly when technological capabilities are established. Similarly Helfat and Peteraf, (2014) argue that dynamic capabilities are required for the redesigning and reframing of the business model. They also suggest that dynamic capabilities are useful in shaping how

adjustment within the organization is received, including reducing opposition to adjustments. It is also suggested that dynamic capabilities include the building up of skill and assets and result in improved tactical outcomes (Helfat, Peteraf, 2014). In contrast Ritter, Walter, Sienknecht and Coviello (2018) suggest that a firm's aptitude to acquire, adjust, incorporate and redesign outside or internal abilities determine the firm's performance. Michailova and Zhan (2014) also indicate that the increase in dynamic capabilities results in better performance and increase the likelihood of innovation.

While early clues to business model innovation antecedents and outcomes are provided on the literature of dynamic capabilities, this study needed to contribute empirical base building.

2.6 Outcomes

Cucculelli and Bettinelli (2015) indicate that further research is required on the outcomes of business model innovation among entrepreneurial firms. Furthermore, limited studies have focused on the comparative setting of business model innovation between entrepreneurial firms and incumbent firms (Foss, Saebi, 2017). Therefore, the following sections review existing literature relating to outcomes of BMI for both entrepreneurial firms and incumbent firms.

2.6.1 Entrepreneurial firms

Studies on the influence of BMI on firm performance have mainly been directed to incumbent firms (Gerasymenko et al, 2015). Innovative firms have a high prospect of superior performance compared to firms which do not innovate (Love, Vather, Roper, 2013). Guo, Tang, Su and Katz (2017) uncover insights on the influence of BMI on the performance of entrepreneurial firms. They argue that the business model is vital for entrepreneurial firms converting market prospects to improved performance. Guo et al (2017) argue that the appropriation of opportunities requires reconfigurations to the business model. They suggest that the business model is a mediator that leads to improved performance. Similarly, Dencker, Gruber (2015) emphasise the importance of the structure of the firm. They contend that the structure of the firm can either limit or enhance the ability of a firm to appropriate an opportunity. However, they suggest that

firms that effectively adjusted their business structure were able to see improved performance.

2.6.2 Incumbent firms

Kim and Min (2015) suggest that the evidence on whether BMI improves performance is sporadic. They make reference to the performance of existing companies who innovated their business models by adjusting the delivery component of the business model. Evidence from retailers revealed that while some firms enjoyed improved performance as a result of the BMI, others gained insignificant revenues as a result. They suggest that while BMI can indeed improve performance and industry, (the example of the iTunes innovation is drawn on to illustrate this point). They argue that undertaking of BMI in isolation does not translate to improved performance. They propose that the current resources of the firm, plus business model innovation and the combination of managerial decisions is what ultimately leads to the improved performance. The major influence to performance is said to be dependent on how the firm manages and implements the BMI and subsequently the resources related to the business model innovation.

Similarly, Desyllas and Sako (2013) through their study in the insurance sector, argue that the benefits of business model innovation depend on how the company is able to deploy assets to benefit from the business model innovation. Their study highlights that even when the BMI is patented, the BMI method alone is insufficient to result in superior performance. They argue that, the patented business model innovation permits the "incumbent" firm a strategy through which assets can be deployed accordingly to then appropriate value from the BMI. In contrast Guo et al, (2016) argue that the performance of a firm is improved when constant exploration is undertaken. They suggest that this approach to business model innovation is what improves the capabilities of the firm to better thrive and cope in dynamic markets. They further argue that the development of innovations enables competitive edge, thus performance.

The concept of corporate entrepreneurship is significant in relation to business model innovation (Karimi, Walter, 2015; Guo et al, 2016). To this end, Karimi and Walter (2015) conduct a study with the purpose of investigating the impact of corporate entrepreneurship on business model innovation adoption as well as the impact of

business model innovation on performance. Their study suggests that entrepreneurial traits such as risk taking are key for BMI adoption and thus better performance in the face of disruptive innovations.

The theme of commercial success emerges as illustrated in the literature as outlined above. However, the influence of business model innovation in the context corporate sustainability is evidenced in a study conducted by Pedersen, Gwozdz and Hass (2016). Pedersen et al (2016) studied, the association between business model innovation and business sustainability. The main findings of this study suggest that companies that confront business model innovation have a higher probability of addressing the aspect of sustainability.

2.6.3 Considerations relative to business model innovation

Above the performance outcomes of business model innovation are said to be sustainability Pedersen et al (2016) and profitability (Love, Vather, Roper, 2013), however, performance outcomes of business model innovation are under explored (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun and Gu, 2014). Furthermore, business model innovation literature lacks empirical basis (Foss, Saebi, 2017), thus the need for this study.

2.7 Conclusion

A theme that emerged from the literature review on the business model suggests that the business model refers to the design of value creation, capture and delivery of a business (Foss, Saebi, 2017; Zott, Amit, Massa 2011). The topology of the business model permits a lens through which analysis can take place. The business model is said to consist of value proposition, value delivery, value capture and value creation as among the most commonly written about in the literature (illustrated in table 2). Considering that more comprehensive frameworks exist such as the business model canvas (Günzel and Holm, 2013), the relevance of the nine-point decomposition (Chesbrough, 2010) is discussed. This identification of the components enables the analysis of each component and allows the interactions and relationships between independent components to be understood in context (Landau, Karna, Sailer, 2016).

A general increase in focus on the business model innovation concept is evident (Foss, Saebi, 2017). However there is a lack of clarity on the construct and linking of relationships between components is important in development of the BMI literature (Foss, Saebi, 2017). However, studies showing linkages between components and architecture are lacking (Velamuri, Bansemir, Neyer, Moeslein, 2013). The increase in focus and the current gaps in literature development render this field largely emergent (Bucherer, Eisert, Gassmann, 2012). Therefore this leads to the need for this study, which seeks to uncover new insights relating to the internal antecedents and outcomes of business model innovation.

The literature on business model innovation suggests that the antecedents and drivers to this phenomenon are cost reduction, process improvement, new products, market penetration and financial gain (Foss and Saebi, 2017). However, there is a predominant focus on external conditions in this regard (Ferreira, Proença, Spencer, Cova, 2013). In addition, empirical basis on the antecedents and constraints of business model innovation is lacking (Foss, Saebi, 2017). The outcomes of undertaking BMI suggest improved performance, this is evidenced in both incumbent firms (Pedersen et al, 2016) and entrepreneurial firms (Love, Roper, 2013). However, the performance outcomes of business model innovation are under explored (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun, Gu, 2014), thus the need for further study.

The role of business model innovation is shown to be largely ignored and unclear in open innovation literature (West, Bogers, 2014). Furthermore, it is suggested that open innovation and dynamic capabilities literature is helpful in shedding light on new insights relating to internal antecedents and constraints of business model innovation (Foss, Saebi, 2017). The need for this study in the context of open innovation lies in the lack of studies that focus on the business model innovation constraints that exist in the context of open innovation (Berglund, Sandström, 2013).

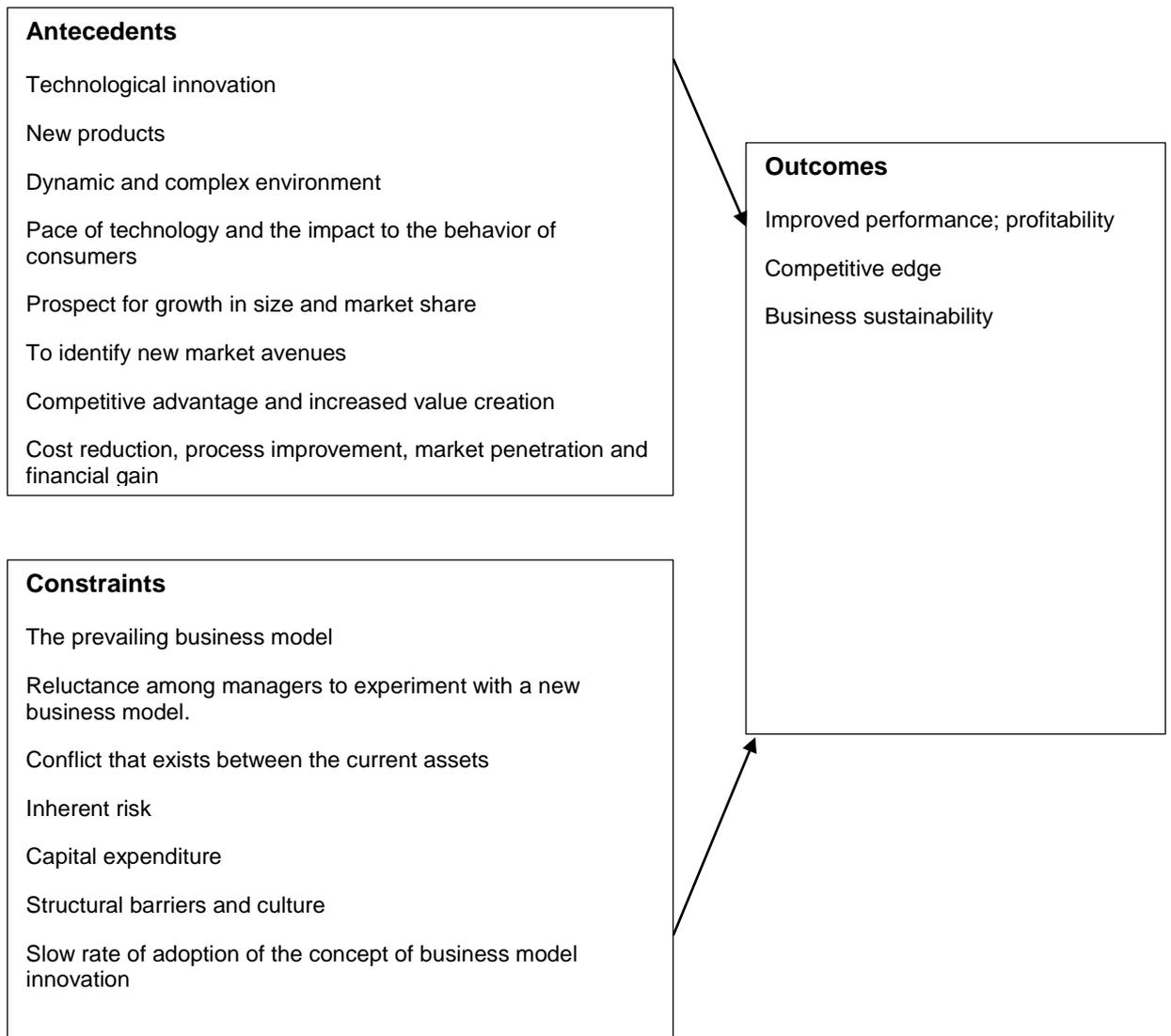


Figure 2: Conceptual framework based on literature

While early clues to business model innovation antecedents and outcomes are provided on the literature relating to dynamic capabilities and entrepreneurship, this study is needed to contribute empirical base building. A conceptual framework of antecedents, constraints and outcomes of business model innovation based on the existing literature is illustrated above.

3 CHAPTER 3 RESEARCH QUESTIONS

3.1 Introduction

The literature review detailed in the previous chapter results in the research opportunity of this study. This chapter presents the research sub-questions accordingly, that aimed at answering the main question as detailed in chapter 1. The research questions are formulated to seek insight on business model innovation antecedents, constraints and the outcomes of business model innovation. The role of business model innovation in open innovation is introduced to uncover new insights relating to internal antecedents and constraints of business model innovation.

3.2 Research question 1: Antecedents

What are the antecedents and constraints to internal business model innovation?

As outlined in chapter 1 and 2, a gap exists in relation to the study of the antecedents and constraints of internal business model innovation (Foss and Saebi, 2017). Studies in the field of antecedents and constraints to business model innovation have mainly focused on external conditions in this regard (Ferreira, Proença, Spencer and Cova, 2013). Furthermore, studies with empirical basis regarding the antecedents and constraints to business model innovation are lacking (Foss and Saebi, 2017). This question seeks to address this gap in the literature, thereby allowing understanding relating to the antecedents and constraints of internal business model innovation.

3.3 Research question 2: Role, antecedents and constraints

How is business model innovation undertaken in open innovations?

In chapter 1 and 2, the lack of significant understanding on the role of the business model in open innovation is highlighted (West, Bogers, 2014). Foss and Saebi (2017) suggest that the literature on open innovation is helpful in discovering new insights on

internal antecedents. Furthermore, they suggest that there are constraints in business model innovation that result in this context due to conflicting demands in these network relationships. Thus, this research question aims to discover insights with regard to constraints and antecedents that are applicable in this context and the role of the business model in open innovations.

3.4 Research question 3: Outcomes

What are the outcomes of business model innovation?

The drivers for business model innovation are said to be cost reduction, process improvement, new products, market penetration and financial gain (Foss and Saebi, 2017). However, the performance outcomes of business model innovation are under explored (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun and Gu, 2014). In addition, Cucculelli and Bettinelli (2015) indicate that further research is required on the outcomes of business model innovation among entrepreneurial firms. This question is aimed at uncovering insights regarding the outcomes of business model innovation.

3.5 Conclusion

This chapter provides the research questions in line with the study's main objectives as presented in chapter 1. Exploration and analysis as relates to the research questions is aimed at obtaining understanding in the areas detailed above. The research methodology is presented in the following chapter.

4 CHAPTER 4 RESEARCH METHODOLOGY

4.1 Introduction

This chapter outlines the research design that is relevant and appropriate for answering the research questions outlined in chapter 3. Details relating to the universe, sampling method, unit of analysis and measurement instrument are provided and discussed appropriately. Thereafter, the piloting of the measurement instrument and data collection process is presented. The data analysis process is detailed and discussed accordingly, thereafter aspects relating to the reliability and validity of the study are outlined. Finally the ethical considerations applicable to this study are then presented accordingly.

4.2 Research methodology and design

The objective of this study was to seek insight and understanding, Saunders and Lewis, (2009) guide that exploratory research should be utilised where the research seeks to find out what is happening and gain new insights. Thus a qualitative, cross sectional approach was adopted. Bloomberg and Volpe, (2012) guide that the qualitative method is suited for understanding and exploration, further emphasising the appropriateness of the choice of a qualitative approach.

Considering that the role of the business model in open innovation is largely under explored (West, Bogers, 2014), an exploratory design, in line with the pretext of pragmatism is optimal. The performance outcomes of business model innovation are under explored, particularly among entrepreneurial firms (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun, Gu, 2014; Cucculelli, Bettinelli, 2015). Thus the choice of an exploratory, qualitative design. This choice facilitated a depth of insight and understanding in the previously under explored areas. Considering that the aspect of understanding business model innovation in the context of open innovation is said to have the potential to shed some insight on antecedents and constraints (Foss, Saebi, 2017), pragmatism allows for the relevant links between objectives and design (Saunders, Lewis, 2012; Morgan, 2013).

The study sought exploration and insight, which was lacking in the literature as detailed in preceding chapters, thus the selection of a mono method. Flick, (2014) suggests that the main reason for a qualitative approach should be that a question requires that kind of approach. In this study, the questions relating to antecedents, constraints, roles and outcomes of business model innovation were best served by a qualitative approach.

A combination of deductive and inductive research methodology was utilised in this study. This is due to the conceptual framework relating to antecedents, role, and outcomes of business model innovation resulting from the literature review and the new insights which are sought in the study. The use of a combination of a deductive and inductive approach in qualitative research is endorsed by Saunders, Lewis (2012) and Bloomberg, Volpe (2012). They suggest that the process of research analysis is channelled through literature and thereafter subject to the primary data as experienced by the researcher.

4.3 Universe/population

The population is said to be where the answers to the research questions can be found (Daniel, 2012). The setting for business model innovation studies has previously focused on entrepreneurial firms, this is largely due to the association drawn between business model innovation and traits of entrepreneurship such as vision, imagination and judgment (Foss, Saebi, 2017; Foss, Saebi, 2016). Very limited studies have focused on the comparative setting of business model innovation between entrepreneurial firms and incumbent firms (Foss, Saebi, 2017). Therefore, entrepreneurial firms and incumbent firms in this study form part of the population due to their relevance to the research objective (Kuckartz, 2014). A comparison of business model innovation antecedents and outcomes between entrepreneurial and incumbent firms would offer richness of insight.

This study focused on the services and manufacturing industries in South Africa. The addition of a service element to a company's value proposition is said to be a driver for business model innovation (Karpen, Bove, Lukas, 2012; Velamuri, Bansemir, Neyer, Moslein, 2013). This is said to be particularly true in cases where there is a shift from selling only products to the addition of a service with the product (Nair, Paulose, Palacios, Tafur, 2013; Visnjic Kastalli, Van Looy, 2013; Visnjic Kastalli, Van Looy,

Neely, 2013). Entrepreneurial and incumbent companies in the service and manufacturing industries thus represented the best location for answers to business model innovation antecedents and outcomes (Daniel, 2012).

A comprehensive list of the members of the population could not be produced due to time constraints. Existing lists containing all the members of the population conforming to the characteristics described above is not known. Therefore, an accurate sampling frame could not be established. This informed the decision of non-probability sampling in line with the recommendation of Saunders and Lewis (2012) for sampling in under these circumstances.

4.4 Sampling method and size

4.4.1 Sampling method

Saunders, Lewis (2009) stress the importance of a logical relationship between the sample technique and the purpose of the research. In line with the aim of the study, non-probability (self-selection) exploratory purposive sampling was employed for this study. Considering that this study sought an in-depth understanding of business model innovation antecedents and outcomes, the participants needed to have the relevant grasp of the concepts and experience in order to ensure rich, high quality data was obtained (Daniel, 2012; Bloomberg and Volpe, 2012). Thus senior managers and owners of firms with first-hand experience of the phenomenon under study (business model innovation) were targeted for participation. It is suggested that business model innovation requires senior management involvement due to the design changes the accompany it (Foss, Saebi, 2017). The sampling process was undertaken by way of a desktop search. The network of the researcher was also employed to identify suitable interviewees that conformed to the required characteristics in terms of the research objectives.

4.4.2 Sampling size

It would not be practical nor possible to obtain participation from the whole universe during the period of this study, thus the requirement to sample (Saunders, Lewis 2009).

The sample size was not predetermined but the researcher set out to conduct as many interviews as required to reach saturation. This is the point in the data analysis where new interviews yielded no new insights or themes (Suanders, Lewis, 2012). To systematically ascertain the point of saturation Guest, Bunce, Johnson, (2006) suggest a pragmatic gauge that involves noting new codes with each interview. This method was utilised for this study, the point of saturation was reached at the 12th interview as illustrated below.

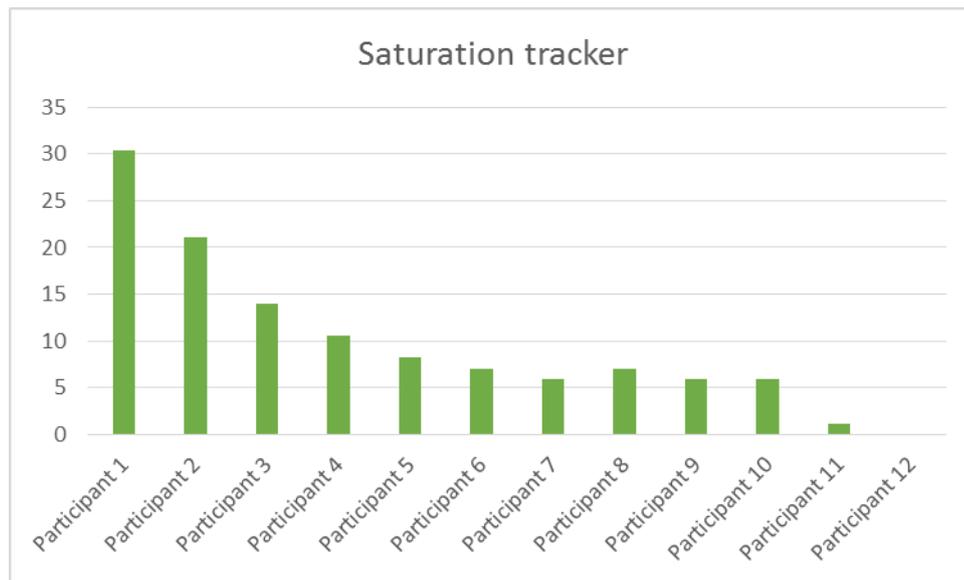


Figure 4.1: Number of codes per participant

4.5 Unit of analysis

The study sought to analyse business model innovation among entrepreneurial and incumbent firms. The quality and richness of the data was ensured through the participation of individuals who had first-hand experience of the research phenomenon. Therefore, the unit of analysis was the individuals in the incumbent and entrepreneurial companies. Marlow and Boone (2011) identify three types of units of analysis, individuals, group, and social artefact they guide that the unit of analysis refers to who or what is being studied. Due to the focus on the individual experience and grasp of the concept of business model innovation, the individual unit of analysis best applied to this study.

4.6 Data collection

4.6.1 Interviews (semi-structured)

The semi-structured, face to face (10) and telephonic (2) interview approach was utilised, this approach was congruent with the intent of the study to obtain insight and in-depth understanding. The interviews were conducted in the locations of business of the interviewees and at GIBS where expedient. This environment was conducive to effective dialogue and increased the comfort levels of the participants, thus enabling meaningful and insightful interviews. Telephonic interviews were conducted from quiet locations where the interviewer and interviewee were able to avoid distractions so as to ensure data integrity and meaningful data collection. Informed consent letters were printed and signed at each interview for face to face interviews. The informed consent letters were sent by email, signed copies were returned by email where telephonic interviews were concerned.

The interviews were scheduled for a maximum of an hour and a minimum of 30 minutes to allow sufficient time to gain optimal insight, while avoiding unnecessary deviations from the key objectives. As a basis upon which to develop the interview Saunders (2009), open questions were posed. These were suitable in building rapport, establishing background and thus ensuring that the interviewee was suitable and at ease. Probing questions then followed in order to maintain flow, logic and depth of understanding. Uniformity in terms of the nature and sequence of questions was sought across all interviews so as to ensure consistency and integrity of data collected.

Interviewees were pursued by way of email in order to ascertain interest, secure participation and reduce the chance of non-participation. The choice of the semi-structured approach permitted fluid conversations and the opportunity to probe and explore (Saunders, Lewis, 2012). In order to obtain optimal data quality, prior preparation and planning was undertaken for the purpose of the interviews. This is an aspect that ensured quality in the data gathered, thereby improving reliability (Saunders, Lewis, 2012).

With the consent of the interviewees, audio recordings were obtained for both telephonic and face to face interviews. To ensure safe storage of the data, the recordings were stored on both the recording device and backed up on google drive immediately after each interview. The longest interview conducted was 47 minutes and

the shortest interview was 18 minutes. The average duration of the interviews was roughly 30 minutes. Transcripts of the interviews were stored on a laptop device and google drive to ensure security against loss of data.

4.6.2 Measurement instrument

The interview schedule was the measurement instrument. The semi-structured interview schedule as outlined in annexure B, facilitated consistency and thus validity of the data (Saunders and Lewis, 2012). The semi-structured questions were firmly aligned to the research objectives, this was ensured by way of the consistency matrix, as indicated in annexure A. In addition, the alignment of the interview schedule was guided by the literature review conducted in chapter 2. The resulting conceptual framework provided a means through which direction and consistency was maintained in formulating the research questions, thereby ensuring the interview schedule measured what was intended for measure in the study. The nine point decomposition of the business model provided a means through which validity of the data could be measured as it provided a lens for analysis.

4.6.3 Piloting

The interview schedule was piloted to gauge effectiveness of the discussion guide for the study and allow for refinement and adjustment to take place prior to completion of all the interviews. In addition, this provided the interviewer the opportunity to ensure clarity in the articulation of the questions and safeguarding alignment with the key objectives of the study (Suanders, Lewis, 2012).

Subsequent to the piloting of the interview schedule it was found that the initial set of questions were not clearly aligned to the research objectives. This was detected through interviewee responses to the structured questions. The responses often drifted from the research objective, hampering the effectiveness of the interview and data collection. As such, realignment of the discussion guide to the research objectives took place prior to the next interview and questions were revised accordingly. The second pilot interview was without any issues in this regard, thus no further alterations to the interview questions were deemed necessary.

4.7 Data analysis

In order to enhance the depth of the data analysis process, the interviews were recorded and transcribed accordingly. Due to time constraints, during the process of conducting this study, the services of an external transcriber were employed. To ensure conformance with the confidentiality parameters of the informed consent letter, all identifiers were removed from the transcripts. In addition, a non-disclosure agreement was signed between the researcher and transcriber to honour the confidentiality of the informed consent. During this process, no audios of interviews were shared with the transcriber until the non-disclosure agreement was signed. The transcripts for each interview were formatted consistently to facilitate consistency in the analysis process. Thereafter, the transcripts were loaded and analysed using a software program, Excel for deductive analysis and Atlas.ti for inductive analysis.

Open coding for the inductive analysis was particularly relevant as it allowed for labeling of concepts and building categories (Nueman 2000) so as to identify thematic outcomes in the data collected.

Braun and Clarke (2006) suggest that thematic analysis is not a time bound process, but one that requires continuous analysis of the data as required to identify patterns and themes. This is the approach that was undertaken with respect to the inductive analysis, so as to allow the themes informed by the data to emerge. For the purpose of this study, this approach enabled the appropriate interpretations of the data in the analysis process. Braun and Clark's (2006) six step process to thematic analysis was followed as tabulated below. A sample of the codes generated is provided in annexure C.

Step	Description
1. Familiarity with the data	This step entailed transcribing of the data and reading the data multiple times to ensure an intimate understanding of the data. Hand and written notes were made where any ideas came to the fore.
2. Generated initial codes	Coding in atlas.ti was undertaken for each transcript.
3. Searched for themes	Codes were then grouped into categories as a means to arrive at accurate themes.
4. Reviewed themes	The themes were then contrasted against the codes at the lowest level to ensure that links were drawn and that they accurately represented the data.
5. Defined and named themes	Fine tuning of the themes then took place, this entailed a reviewing of the themes and definitions/quotations that represented the themes.
6. Produced the report	The themes were then reviewed in line with the research questions and the findings produced in chapter 4, 5 and 6.

Table 3: Steps followed in the data analysis process, adapted from Braun and Clark (2006)

As indicated in section 4.3 above, limited studies have focused on the comparative setting of business model innovation between entrepreneurial firms and incumbent firms (Foss, Saebi, 2017). Thus the analysis process entailed the comparison of the data between incumbent and entrepreneurial firms as well as between industries (services versus manufacturing).

To analyse the data effectively, a coding system in line with the conceptual framework discussed in chapter two (based on the literature) was prepared. This guided the identification, comparison and interpretation of key themes relating to antecedents and outcomes of business model innovation.

4.8 Data trustworthiness

4.8.1 Reliability

Reliability is concerned with the level of consistency and conformability relating to the study (Saunders, Lewis, 2012). As such, the element of bias required the researcher's awareness and acknowledgement, particularly considering that the research design was exploratory and involved interpretations by the researcher (Saldana, 2015). To curtail bias, the researcher ensured that the manner in which questions were posed by the interviewer were consistent across all interviews (Silverman, 2013). The sequence of questioning was kept consistent for each interview and the tone of questioning kept neutral. Open questions were posed to minimize the introduction of bias, thus ensuring avoidance of leading questions. In the process of data collection, the interpretations of the researcher were queried and checked for accuracy by requesting participants to evaluate and confirm that the interpretations were correctly represented, this is recommended by Saunders and Lewis, 2012).

4.8.2 Validity

Validity refers to the degree to which measurement obtained by the research is aligned with what was intended (Saunders and Lewis, 2012). To this end the researcher relied on the consistency matrix and consistently relating the research objectives throughout the data analysis process. The use of the consistency matrix ensured that a golden thread was maintained between sections of the whole study, thereby attaining validity. The technique of probing and confirming interpretations during the interviews was also employed to ensure that integrity of the data was maintained during the data collection process (Saunders, Lewis, 2012; Bloomberg, Volpe, 2012).

4.9 Limitations

The degree to which the findings of the study are generalizable is limited, as the study is exploratory in nature. Further work would need to be carried out to test the findings of generalisability to the whole population (Noor, 2008). However, the aim of the qualitative study is ascertaining transferability in order to explore how the insights may

be applied in comparable contexts (Bloomberg, Volpe, 2012). As alluded to in the preceding text, the intent of the study was to explore the objectives and their applicability to other contexts.

The sampling method (non-probability sampling) is subject to a fair degree of judgment which poses the risk of bias (Saunders, Lewis, 2012). However, the appropriate actions to minimise and eliminate bias were embarked upon to overcome bias as detailed in section 4.8 above.

4.10 Ethical considerations

The appropriateness of the researcher's behavior toward the rights of the participants of the study was ensured by conformance to the GIBS ethical conduct requirements. This entailed obtaining ethical clearance prior to collection of data, ethics approval in contained in annexure D. The researcher ensured that any information that may reveal the company or individual identity was kept confidential. This was done to honour the parameters of the informed consent letters that were signed by all the participants. Non-disclosure agreements were utilised with respect to the use of a transcriber. The contents and format of the non-disclosure agreement was submitted to the GIBS ethics committee for assessment and approval.

4.11 Conclusion

This chapter outlined the research design, data collection and analysis process. Furthermore, aspects relating to validity, reliability and ethics were discussed. This chapter also highlighted the narrowing of the population to the services and manufacturing industry, due to the service component and servitisation being a driver for business model innovation (Foss, Saebi, 2017; Foss, Saebi, 2016). The setting of entrepreneurial and incumbent firms was also justified accordingly in relation to the objectives of the study. The sample was obtained from owners and senior managers to ensure participants have experience and grasp of the research phenomenon. The results of the data analysis are discussed in the following chapter.

5 CHAPTER 5 RESULTS

5.1 Introduction

This chapter presents the results of the 12 interviews conducted in line with the research questions. The characteristics of the sample of participants are presented first. To facilitate accurate reporting of the findings of the research, an overview of the results relating to the key constructs is presented. Thereafter the findings relative to each research question are presented.

5.2 Characteristics of participants

Six entrepreneurial firms and six incumbent firms were interviewed for the study, 5 of the participants are from the manufacturing industry and 7 are from the services industry. In all cases senior managers and/or founders were interviewed. In all cases, the individuals interviewed were involved with business model innovation, whether driving it or enabling it.

Participant	Role of interviewee	Industry	Location	Firm type
1	Head of core banking IT	Financial services	Gauteng	Incumbent
2	Engineering Manager	Engineering services	Gauteng	Incumbent
3	Commercial director	Manufacturing	Kwazulu Natal	Entrepreneurial
4	Chief commercial officer	Manufacturing	Western Cape	Incumbent
5	CEO	Manufacturing	Gauteng	Entrepreneurial

6	Account Manager	Manufacturing	Gauteng	Incumbent
7	Partner	Management Consulting services	Gauteng	Incumbent
8	Manager of transmission engineering	Telecommunication services	Gauteng	Incumbent
9	Managing director and majority shareholder	Manufacturing	Gauteng	Entrepreneurial
10	Managing director	Accounting services	Gauteng	Entrepreneurial
11	Founder	Transport services	Gauteng	Entrepreneurial
12	Managing director	Transport services	Gauteng	Entrepreneurial

Table 4: Characteristics of the participants

5.3 Overview of results relating to key constructs

5.3.1 The business model

Most of the participant's understanding of the business model is that the business model refers to the activities of a business. In addition, participants understood the business model to relate to the design of an organisation to enable revenue generation. Based on the distinction of the business model from strategy, the researcher concluded that a participants associated a short term time frame to the business model compared to strategy.

Participant 2: "Right it's the model that works to say how we make, how do we achieve our strategic objective".

Participant 3: "So, in my organisation, the business model is how we operate, how we go about doing our day to day activities and our core business".

Participant 6: "So in simple terms I would say a business model will speak to the what, so what do I need to do. Whereas a strategy it will speak to the what, so what is our strategy? This is our strategy, then the business model then addresses the how. So how do we bring the strategy into fruition, so what business models do we need to put in place to making sure that all the stakeholders that are playing a role, they are all rowing in the same direction that will lead us to achieving the strategic intents".

Participant 7: "Okay, so in my world where I operate, I am in management consulting so when we speak to clients about business models, we typically refer to the logic that allows companies to make money. It is the internal logic that drives their ability to generate revenue on a consistent basis".

Participant 8: "My understanding of the business model is, what basically, what opportunities is the business going to be chasing, what revenues or value revenues from that opportunity and the approach".

Participant 10: "Okay, so my understanding of business model is, how we run our business, what is our policies, procedures, methodologies. How do we, in short, run the business that is business model".

Participant 11: "Alright, business model, okay, I think it is the profit formula for the business to say how do you convert your service or product you are giving for you to turn a profit".

5.3.2 Business model topology

With regard to the components of the business model the participants mentioned the activities of a business, partner networks, clients, delivery, execution, ideation, opportunities, pricing, revenue and value proposition.

Participant 11: "Then the driver would be responsible for putting fuel, the driver would then also be obligated to pay me a certain amount every week".'

Participant 5: "From a business strategy point of view, what we've always tried to do is to run our business in a way where we're seen as a corporate, so we deal with our customers as professionally as possible, with the same sort of professionalism and attention that you would get from a corporate business"

Participant 6: "And then taking the finished goods into the warehousing and eventually getting those finished goods then to the customers and into the shoppers hands".

Participant 1: "So, for me it's two parts, so it's the ideation as well as the execution. So from an ideation perspective we're actually running a couple of experiments where it's process right".

Participant 8: "Opportunities is the business going to be chasing"

Participant 7: "The third aspect of that business model would be the pricing model, once you've conceptualised the products and services, when we talk about business model formulation we then want to understand what are the appropriate price points that link to that particular value proposition".

5.3.3 Business model innovation

The articulation of the concept of business model innovation among the participants was varied. Some of the participants referred to business model innovation as making changes to the current model to obtain more efficiency. In contrast, other participants understand business model innovation to be creating value for all stakeholders.

Participant 3: "How can we innovate to make this more efficient and more streamlined".

Participant 4: "Business innovation is about how you look at things differently, have an open mind so that you can drive the benefit for all parties involved".

Participant 7: "So in our world, for example, some of the innovations that you might find is that we might contract with customers either based on a fixed fee

type of arrangement or we might say it is the time and materials arrangement. Increasingly, what we are finding is that because there's some level of scepticism about value that clients might get at the end of the day".

5.4 Research question 1: Antecedents

What are the antecedents and constraints to internal business model innovation?

The purpose of this questions was to discover new insights to the antecedents and constraints of internal business model innovation. Below the results relating to antecedents and thereafter the constraints are outlined.

5.4.1 Antecedents

The findings relating to antecedents are tabulated below. All participants with the exception of three mentioned client centricity as a driver for innovating their business model. This was said to involve assessing what made sense for the client, understanding intimately what the needs of the client were. This was also said to include co-creation. Co-creation was described by the participants to be a process of communication where the needs of the client were extracted, working together with the businesses. This then led to the participants making changes to the current model to meet those needs.

Participant 7: "So the fact that, you know, we are a client centric, market centric organisation that works for us in terms of being able to innovate because we are able to pick up these trends fairly quickly".

Participant 1: "So, we started challenging ourselves and kind of disrupted internally first to talk about what would make sense for the client".

Participant 2: "There's always been constant communication between us as well as most of the clients"

Participant 6: "But you will find on the supply chain side, it's mostly driven by the response to what the customers are doing, and positioning ourselves in line to that".

Change and efficiency were found to be the second most repeated drivers or antecedents of business model innovation. At least five of the 12 participants provided these two as drivers of business model innovation. The participants indicated that changes as a result of tough economic conditions have resulted in subsequent innovations to their business models. The nature of change mentioned among other participants included technological change and general market change. Some of the participants indicated that it was rather a general openness to change that drives their business model innovation efforts. Efficiency relating to the limiting of waste, cost reduction and improving margins was also found to be among the drivers.

Finally, among the drivers that emerged from the data is the improving of profitability, introduction of new products, risk management, collaboration between functional units and internal as well as external alignment.

Participant 10: "Otherwise essentially you will cost yourself out of business, so the driver is definitely profit and efficiency and/or managing of risks".

	Antecedents	Participant												Frequency
		1	2	3	4	5	6	7	8	9	10	11	12	
Drivers	Client centricity	6	5				5	7	2	2	2	4	6	39
	Cross unit collaboration	1						1						2
	Change	1	3			2	1		2					9
	Alignment							3						3
	Collaboration							2					2	4
	Profits										3			3
	Risk management											2	3	5
	Competitive edge		1					4		6				11
	Cost reduction			2			3	1						6
	Efficiency			3			2	1		1	2			9
	New products						2							2

Table 5: Frequency of quotations by participants per code for drivers of business model innovation

The preconditions that participants indicate are required for business model innovation are trust, thinking out of the box, creating an environment where ideas can be heard and generated. In addition, there were also indications that open discussion that is focused on improving the business were a necessary pre-condition for business model innovation. A consistent state of searching for ways to improve the business and creating an environment where knowledge sharing is a culture was said to have resulted in business model innovation. In addition, a spirit that is entrepreneurial,

engaging with clients and an existence of trust where there is sharing of ideas is required for business model innovation. These results are tabulated below.

Participant 7: "I think there is an element of trust that comes with this as well where you find that on the webinars, we may be sharing fairly sensitive client information so you really have to trust your colleagues that that information is not going to be shared in a reckless fashion and then we jeopardise client confidentiality".

Participant 1: "One of the key values are entrepreneurial spirit, and so to explain that is, someone has a core business idea and they go and make a deal".

Participant 4: "There needs to be certain conditions to make this a reality, so to make it a reality, number one, you've got to get buy in".

Participant 2: "What we tend to do from a management point of view is to ensure that we keep, you know, an open discussion around how do you make things better, and give people time to actually really think about how to make things better".

	Antecedents	Participant												Frequency	
		1	2	3	4	5	6	7	8	9	10	11	12		
Pre-conditions	Entrepreneurial spirit	1													1
	Generating ideas		1				1							2	4
	Constant search		1												1
	Open discussions on improvement		1												1
	Enable opportunities								1						1
	Knowledge sharing culture							1							1
	Market scanning							3	1						4
	Thinking out the box					3								1	4
	Trust							3						2	5
	Getting buy in				4										4
	Stakeholder involvement				2										2

Table 6: Frequency of quotations by participants per code for preconditions of business model innovation.

5.4.1.1 Capabilities

The building of the right capabilities emerged as a significant pre-condition to undertaking business model innovation. In addition, capabilities were found to be a key element in overcoming constraints. The findings in this regard are detailed below.

To enable business model innovation, it emerged that building of diverse teams was important. Given that the cost of implementation for business model innovation was high, participants indicated that leveraging existing capabilities and budgets was key in enabling business model innovation. The sourcing and building of technological capabilities for business model innovation was said to be a significant enabler. Finally it emerged that communication and rallying support and unity in undertaking business model innovation was a key precondition.

Participant 1: "So, what we've done is we've kind of taken the design thinking model and we made it work for us, so from that ideation perspective you need fair representation across the group or business units".

Participant 1: "Through that we used some of the existing budget to build the platform".

Participant 8: "Also from the system perspective now derealisation which is using technologies making sure that we built systems that allow us to be able to use technologies like big data".

Participant 4: "So, by communicating to everyone, and I mean everyone, everyone becomes clear on where we want to go and what role they're going to play".

Participant 1: "But kind of adopting the same mentality, it's about leverage rather than building separate capabilities in separate business units".

5.4.1.2 Business model innovation process

Some of the participants referred to the business model innovation process as a precondition to business model innovation itself. They described business model innovation as a phased process, involving collective effort across the organisation and including clients. It emerged from the data that generally business model innovation began with ideas, creating an environment where these ideas are shared. This involved sharing between functions as well as sister companies across the world.

Participant 1: "So, it is a very collective vibe, collective wisdom and really leveraging of that, and then once that works we go into full on creation where it becomes a product that we release to the market, and then the third phase is

operation because once it's in the market, kind of learn from usage and behaviour and learn from that, and the underlying theme there is co-creation, the collaboration, and learn from doing some retrospectives”.

Participant 1: “So from an ideation perspective we’re actually running a couple of experiments where it’s process right”

Participant 1: “You want that to be in the best position to help innovate and help come up with ideas”

Participant 2: “We brainstorm around it and we see how can we make it better”

It was indicated that once there are ideas generated that are considered viable, the formalisation of the ideas was required in terms of creating an environment for business model innovation. This entailed a drive to tune the culture toward innovation from a practical sense. Furthermore, it was implied that support for boldness and encouragement for experimentation was built into the environment in order to enable business model innovation.

Participant 1: “I think what we try and do at CompanyX is to try and instil innovation in practice, so it’s a day to day task as opposed to a once a day in an Agathon to kind of be innovative”.

Participant 2: “What we tend to do from a management point of view is to ensure that we keep, you know, an open discussion around how do you make things better, and give people time to actually really think about how to make things better”.

Participant 1: “So, we really try and not focus so much on the product of the innovation, but rather the how and the who and creating the right culture to be innovative”.

Participant 1: “Creating the right environment for people to thrive, to be brave enough to try different things”.

Participant 4: “So, from a leadership point of view, I’m driving a different culture within the leadership so that the people start looking up to a leader that’s saying I believe them, they are being open, they are being transparent, they’re leading me and they’re guiding me”.

Participant 4: "So there is processes in place that we utilized. For an example, we have a council that we call an NPI council which is called a new product innovation council. So in this council, this is where all the relevant stakeholders will then sit in to go through, the different stages of any innovation that we bringing into the market".

The next step that emerged among the participants is the testing or prototyping of the actual innovation. In some instances, the innovation resulted in an actual product which in turn informed the business model. In others cases, participants mentioned the innovation to be the business model. This phase was said to involve rethinking the current design of the business. Testing was said to entail delivering the new value to customers, or makes changes to the current model to achieve improvement to the current output.

Participant 1: "Then we could come up with a design to say, okay, well, that's what we're solving for, that's the real problem that we're solving for and then hypothesise and take that, whether it's drawing on a piece of paper or a very quick mock up to clients or just general people in the market to test the idea".

Participant 7: "You actually have to have a series of subsequent meetings where you are advancing the thinking, entrenching the thinking in the clients mind, testing your thinking, incorporating the feedback that you are getting and constantly talking the offering that you want to take into that clients space".

Participant 2: "So, if you go now currently to our desk, we're sitting with products from, and we test them, so if they tell us this, we test it and then we will say, no, but it doesn't work".

5.4.2 Constraints

5.4.2.1 General constraints

It emerged from the data that one of the common constraints to business model innovation is the cost of implementation. Six of the twelve participants indicated that even when there are opportunities to innovate the business model, the lack of financial means to implement the new business model is a constraint. Furthermore, the lack of

specialised skills required to bring about the innovation to the business model is a key constraint.

Participant 9: "If you don't have the budget to pay one of the big law firms here in Sandton, you will never get off the ground".

Participant 7: "So to be able to bring some of those teams to come down here, tends to be a big constraint largely because it comes at a cost, so you almost always have to have a business case to justify why you want to bring a team of 5 or 6 people to come down here to interact with your client".

Participant 3: "We have to look at again costs, is it going to make sense because not all innovations, yes, it might save you costs in the long run, but the input cost of putting it in place at the end of the day might be too high, it might not be feasible for you to adopt in that sense".

Resistance to change and complacency also emerged relating to constraints to business model innovation. The tendency of the organisation to continue operating under the current status quo, particularly where such status yields some benefit to the organisation was found to be a constraint to business model innovation.

Participant 5: "You're making a bit of money, why, what is the need to change, that is usually where most businesses have a problem that I don't want to change because I am doing okay, so why should I".

One of the twelve participants mentioned a sparse geographical location of team members as a constraint. The reluctance to share ideas in collaborative teams, a change resistant culture or mindset and an age of the workforce that is older and prone to stifling ideas are all elements that are constraints to business model innovation. Finally, a lack of market development in terms of technology and general market sophistication relative to first world markets emerged as areas that are constraints business model innovation.

Participant 8: "So lack of knowledge that is an issue barrier number one".

Participant 10: 'So constraint on our side is definitely staff, quality staff, what happens each year, you know, your bigger firms would take the bulk of the good people

Participant 2: "Ja, it can be, it can be really territorial because you don't want, I don't want to paint it as if it is like walking, it can be territorial where guys are

like, but why are you asking me this. It is like you think you're going to steal a certain idea and some people forget that we're actually one".

Participant 7: "I think the biggest constraint in our world, because we are a global firm and we have what's called a global store front. Is the geographic distances, so sometimes, you'll find that we want to build a particular offering here, we've seen where the market is growing but the global centre of excellence for that particular offering is sitting somewhere in Singapore or New York or Paris, etcetera".

Participant 8: "Number two, is traditional what can I say old mentality, there are guys who are high in management they have got lots of experience with the company 15/20-years' and they are not seeing any value or they don't have an attitude towards, a good attitude towards the new business model".

Participant 9: "Ja, being established, and also I mean, I am sorry to say it, but having people on your team that look like the people you are talking to".

	Constraint	Participant												Frequency	
		1	2	3	4	5	6	7	8	9	10	11	12		
General	Caginess during collaboration		1											2	3
	Geographical location							3							3
	Complacency					6			1						7
	Cost of implementation			4		2		2		1	2		4		15
	Culture				3					1					4
	Current age of team an attitude to innovation		1							2					3
	Current model													1	1
	Multinational restrictions							7		1					8
	Race										5				5
	Regulation										4	1			5
	Resistance to change				3	4	1								8
	Skills			2						1		4	3	2	12
	Stifling of ideas		1												1
	Lack of market sophistication		1									4			5

Table 7: Frequency of quotations by participants per code for general constraints of business model innovation.

5.4.2.2 Constraints in the open innovation context

According to data collected, the prominent business model innovation constraints that were experienced in the context of open innovation is the potential for losing clients to parties that are part of the collaboration in open innovation. The exposure of these

parties to clients often posed a threat to existing relationships due to the additional competition for the same business. This then becomes a constraints in that parties became reluctant to explore business model innovation in this context.

Participant 9: "So the other constraint I would say is, that I found is that through partnerships in this business because you get the low barriers to entry, the capex and requirements, I would say they are relatively low so you would tend to lose clients or customers to your partners".

The perception of the client relative to parties involved in the open innovation emerged as a constraint to business model innovation in the context of open innovation. Specifically, the finding in this regard is that, client's perceived established business as the better option, thus preventing the business model innovation attempt by the smaller business.

Participant 9: "It was the client's perception of us because we were not a big bank or a big insurance company that they'd heard of, they were sceptical from that perspective".

5.5 Research question 2: Role, antecedents and constraints

How is business model innovation undertaken in open innovations?

It emerged from the data collected that, it is in fact the type of open innovation together with the relevant context for business model innovation that would actually inform innovation of the current business model. Some of the participants mentioned that the ideation process in innovating the current business model would involve external participants, over and above internal parties. The business model innovation in this context was indicated to be a means through which potential new entrants that are disruptive could be absorbed, thereby creating protection against competition. The participants indicated that the current model would be innovated in accordance with what emerges from the open innovation activities and findings.

Participant 1: "So, I think it would inform business model innovation, so it's almost like the ideation phase that I spoke about earlier where you have fair representation and inclusion across internal participants in the bank. This is

really inclusion of external participants or key players in the industry to inform your strategy, and I often use the term with all due respect and Company X, right, we can't Kodak ourselves. So, we can't believe that we are so optimal and delivering so well when we're not 100% certain of what's going on out there and how human behaviour is changing the way clients transact and bank".

In contrast other participants indicated that the current business model played a model active role in the context of open innovation. It was said that the current business model would act as a benchmark for the new products and ideas that emerged from the open innovation efforts. Thus the current model was used as a gauge to measure results and a yardstick for reasonability of the open innovation outcomes. It was also indicated by some of the participants that this often resulted in two parallel business models, where one resulted from the innovation efforts and the current was maintained to keep profits that were already established.

Participant 12: "Ja, okay, we kept it aside, we continued with that model that we used to use and then we set up a team that focuses on this new product. Then we measured both models to see which one is more profitable, obviously the old one was still more profitable but it was helping us to see what works and what doesn't work".

Participant 12: "So we used it more or less like a benchmark and we tried to keep on measuring the impact of the new innovation".

Furthermore, other participants indicated that undertaking open innovation resulted in the need for a re-designing of the current business model.

Participant 7: "Then re-architect our own business model internally to align to that, one of the biggest challenges that some of the professionals raise concerns about is the fact that it seems like every year we are changing and tweaking the organisation".

5.6 Research question 3: Outcomes

What are the outcomes of business model innovation?

Eleven of the twelve participants (as indicated in table 8 below) made reference to revenue as an outcome of business model innovation. It emerged that a few of the

participants make use of market uptake to gauge the outcome of business model innovation. In addition, participants indicated that where products were the output in relation to business model innovation efforts, the revenue growth linked to the specific product was used to measure the outcome of the business model innovation. In addition, as part of the outcomes experienced, four of the twelve participants indicated that efficiency and limitation of waste improved as a result of business model innovation. Examples included the reduction of wasted material and increased volumes. Furthermore, it emerged as indicated by six of the twelve participants that business model innovation improved client engagement. This was said to mean the relationship between the businesses of the participants and the clients improved. This was due to participants being better able to meet the needs of the client as well as better alignment with client needs. It was also indicated that, the outcomes of the improved relationship as a result of the business model innovation had perceived long term benefits.

Participant 2: "Ja, revenue, profit, obviously what we see is that we're seeing more, I mean, more of our technology is being implemented so if we had say in South Africa".

Participant 1: "Revenue that we earned from a new channel, in this case, but the reality is that there's no better measure than how the market accepts or rejects it".

Participant 5: "But externally, I think what it then does also is it starts to bring a very strong level of growth within the categories that we bring in. Because now you are starting to excite your shoppers as well, and naturally when your shoppers get excited, they tend to spend a bit more".

Participant 6: "And then obviously top line growth as well. So if we seeing a top line growth, maybe also know that that innovation that has been put in place is yielding positive results".

Participant 7: "Where we have benefited as Company X is that we have managed, over the last four years, to build an Africa wide capital projects practice which, today it is invoicing fees in excess of two hundred million, from ground zero in 2011 when we started with this thing, okay".

Participant 7: "Yes, we measure by product in terms of which product was more profitable and why, and we can see that an element of innovation that we have

brought into the business in terms of coming up with those new ways of measuring the risk of the client has brought a lot of revenue in the business”.

Furthermore, in contrast the outcome of client engagement was said to mean increased trust levels between the participants and the client, over and above alignment with client needs. Related to the client engagement as detailed above, some participants also indicated that business model innovation resulted in better marketability of the business. This was due to the trust improving, capability in some instances and general improvement in brand integrity.

Participant 5: Your efficiencies in terms of wastage and losses, etcetera, your hours worked, so man hours put into the factory from month to month. Your electricity bills for your operational point of view from if you having a very busy month, working a lot of nightshifts, etcetera, your electricity bills would reflect that.

Participant 3: “They were also aligned to Company X, now with the relationship with Tiger Brands it meant that we needed to be able to manufacture that capacity to keep up with their demand. Tiger Brands is not only local and national, it is also international because they export, so for us being able to have business model innovation, it assisted us two fold, even four folds down the line. Because in terms of the outcomes, when it came to a client the indirect benefit, I don’t think it can be measured because it is that vast”.

Participant 4: “By positioning ourselves as a partner, also as a supplier to them, it started to create different thinking within the customer base. So, people are now engaging with us at the level where it’s not transactional anymore, you’re working as part of the same team, so it takes that concept of [unclear 08:00] and we become one”.

Internally some participants indicated that business model innovation had resulted in an energised work forced. It was said that business model innovation had resulted in a renewed sense of purpose among employees and leadership. From an overall company perspective, the winning of awards was cited as one of the outcomes of business model innovation, suggesting that performance also improved. Two participants made reference to better competitive edge as a result of business model innovation. Participants indicated the demise of competitors and the increase in their own market share as a measure of the competitive edge.

Participant 2: “What it means though is that the other guys were not being innovative enough to stay in the game. It’s not that this company started being dominant, it’s just over the years I’ve seen the dominance of the company because of the innovation that has happened in the company within the products that we provide”.

Participant 6: “And I think it brings that sense of purpose as well, in people’s role”.

Participant 6: “I think the one thing that I have seen it do in instances where we were doing is it drives a very positive level of invigoration within the business itself in terms of, you know, peoples attitude, peoples work ethic, and the excitement level of people within the business, you know”.

Participant 1: “One place, for example, we’ve just won an Institution X money award this year, for the X category, I think it is”.

It emerged from the participants’ indication that growth was a result experienced due to business model innovation efforts. This was said to include growth by footprint as well as profits and sales.

Participant 4: “So, that is tangible, that is tangible, so year one was 15, year two was 30, so that is tangible growth that is demonstrated and resulted to some business model innovation”.

Participant 4: “The sales growth takes care of the charts, so as an example, one of clients that has viewed us a partner, we’ve experienced anything over the last 2 years between 15 and 30% growth”.

	Outcomes	Participant												Frequency		
		1	2	3	4	5	6	7	8	9	10	11	12			
General	Footprint growth			1	2		4	4								11
	Awards	1													2	3
	Client engagement	1	3	2	4			6							5	21
	Competative edge		1					2								3
	Diverse product range			1												1
	Efficiency			1		2	2		1							6
	Energy							2								2
	Engaged employees							2							1	3
	Increased capacity			1												1
	Marketing	2		2												4
	Purpose							1								1
	Revenue	1	1	1	1	1	4	4	1	2	2			1		19
	Improved skills					2				2						4
	Brand intergrity							1								1
	Control								1							1
	Limiting waste					2		2		3	2					9

Table 8: Frequency of quotations by participants per code for outcomes of business model innovation.

5.7 Industry and firm type comparison

5.7.1 Similarities

Tabulated below are the results of an analysis by industry and firm type. In terms of the antecedents to business model innovation, client centricity was common in both the service and manufacturing industry. However, it was not mentioned as an antecedent in the service industry among entrepreneurial firms. Change and cost reduction as antecedents to business model innovation followed the same trend, present in both industries and not evidenced among entrepreneurial firms in the service industry. Efficiency as an antecedent to business model innovation emerged as a commonality in both industries and in all firm types. Collaboration as an antecedent was evident only in the services industry and not present in the manufacturing industry. Thinking out of the box was found among both industries, however was only among entrepreneurial firms.

Culture as a constraint to business model innovation was evident in both industries, however only mentioned among incumbent firms. Complacency as a constraint was found in both industries, however, in the service industry it was only evidenced among incumbent firms. In contrast, in the manufacturing industry complacency was mentioned among entrepreneurial firms. Resistance to change as a constraint was only present in the manufacturing industry.

		Industry				
Firm type	Service			Manufacturing		
	Antecedents	Constraints	Outcomes	Antecedents	Constraints	Outcomes
Incumbant	Client centrity	Caginess during collaboration	Awards	Getting buy in	Culture	Footprint growth
	Cross unit collaboration	Geographical location	Client engagement	Stakeholder involvement	Multinational restrictions	Client engagement
	Entrepreneurial spirit	Complacency	Competative edge	Client centrity	Resistance to change	Efficiency
	Alignment	Cost of implementation	Efficiency	Change		Energy
	Collaboration	Culture	Marketing	Cost reduction		Engaged employees
	Competitive edge	Current age of team an attitude to innovation	Revenue	Efficiency		Purpose
	Cost reduction	Multinational restrictions	Improved skills	New products		Revenue
	Enable opportunities	Skills				Brand intergrity
	Efficiency	Stifling of ideas				
	Knowledge sharing culture	Lack of market sophistication				
	Change	Footprint growth				
	Generating ideas	Competative edge				
	Constant search	Improved skills				
	Open discussions on improvement	Control				
Generating ideas	Limiting waste					
Market scanning						
Trust						
Entrepreneurial	Collaboration	Caginess during collaboration	Awards	Change	Complacency	Footprint growth
	Profits	Cost of implementation	Client engagement	Cost reduction	Cost of implementation	Client engagement
	Risk management	Current model	Engaged employees	Efficiency	Resistance to change	Diverse product range
	Efficiency	Skills	Revenue	Thinking out the box	Skills	Efficiency
	Generating ideas		Limiting waste	Client centrity	Race	Increased capacity
	Thinking out the box			Competitive edge	Regulation	Marketing
	Trust				Lack of market sophistication	Revenue
					Limiting waste	
					Improved skills	

Table 9: Industry and Firm type comparison for antecedents, constraints and outcomes of business model innovation.

In terms of the outcomes to business model innovation, client engagement which relates to the benefits and improvements to the relationship between participants and the client was common in both industries and all firm types. Efficiency was common in both industries, however was not mentioned among entrepreneurial firms in the service industry. Engaged employees as an outcome to business model innovation was

evidenced in both industries, however, only mentioned by entrepreneurial firms in the service industry and incumbent firms in the manufacturing industry.

5.7.2 Differences

Unique results were identified in the data collected in terms of the comparison analysis, these are indicated in plain text in the table above. In relation to antecedents cross unit collaboration, entrepreneurial spirit, alignment, enable opportunities, knowledge sharing culture, constant search, open discussions on improvement, and market scanning were only evident among incumbent firms in the service industry. Profits and risk management only emerged as antecedents among entrepreneurial firms in the service industry. Obtaining buy in and stakeholder engagement were antecedents only in the manufacturing industry among incumbent firms.

Regarding constraints, geographical location, age of team and stifling of ideas emerged only among incumbent firms in the service industry. The current business model was only apparent as a constraint to business model innovation in the service industry among entrepreneurial firms. Race and regulation were unique to the manufacturing industry among entrepreneurial firms.

Finally, concerning the outcomes to business model innovation revitalized energy, renewed purpose and improved brand integrity emerged as outcomes in the manufacturing industry among incumbent firms. Diversity in product range and increased capacity were found to be unique to the manufacturing industry among entrepreneurial firms.

5.8 Conclusion

This chapter has outlined the results of the data collected in relation to answering the main research question, sub-questions and findings regarding key constructs. The antecedents, constraints and outcomes of business model innovation were found to be as summarised in proceeding sections. The results of the comparative analysis of the two industries and firm types are also presented and summarised in the sections above. Furthermore it emerged from the data that, when business model innovation is undertaken in the context of open innovation the current model plays a particular role.

This was found to be benchmarking, re-designing of the current model and informing the business of the type of business model innovation that would be required in future. The results relating to capabilities and the business model innovation process and relevance to the research question were outlined in this chapter.

Chapter 6 will provide a discussion of the resulted as presented in this chapter.

6 CHAPTER 6 DISCUSSION

6.1 Introduction

This chapter details a discussion of the findings as outlined in chapter 5 relative to the literature as discussed in chapter 2. In comparing the findings to the literature, the researcher aimed to identify similarities and differences so as to contribute to and extend the existing literature. This chapter will present the discussion in line with the structure laid out in chapter 5 where the details of findings and themes are outlined. This structure is also consistent with the research questions as laid out in chapter 3 and the measurement instrument as detailed in chapter 4.

6.2 Overview of results relating to key constructs

6.2.1 The business model

The concept of the business model is foundational to the concept of business model innovation. The findings in this regard were that the concept of the business model refers to the activities of a business. In addition, participants understood the business model to relate to the design of an organisation to enable revenue generation. In the literature, the business model was said to be how resources are coordinated to create value (DaSilva, Trkman, 2014). Other studies in literature had described to this term as meaning the structure through which a business arranges its endeavours (Amit, Zott, 2015). Foss and Saebi, (2017) definition suggested that the term refers to the model for how businesses create, deliver and capture value.

The findings support the literature in this regard. A congruence in the findings and the literature about the setup, design or structure of a business is evident. In addition, the findings support the existence of the activities in the meaning of the term.

6.2.2 Business model topology

The findings indicated that activities of a business, partner networks, clients, delivery, execution, ideation, opportunities, pricing, revenue and value proposition are the components that make up the business model. In terms of the literature "key activities,

partner network, key resources, cost structure, value proposition, client relationships, client segments, distribution channels and revenue flows” (Pg.359) (Chesbrough, 2010). Overall the findings support the literature in this aspect. The key difference to the literature that emerged from the findings were the identification of opportunities and ideation as components. The insight in this regard extends the literature and suggests that the current composition of the business model is not exhaustive and possibly an area for future research.

6.2.3 Business model innovation

The findings in relation to the concept of business model innovation was varied. Some descriptions of the meaning of this term made reference to business model innovation as making changes to the current model to obtain more efficiency. In contrast the findings also indicated that business model innovation refers to creating value for all stakeholders. In the literature a similar theme was evident, where a level of imprecision was apparent in the studies relating to the meaning (Schneider, Spieth, 2013). It also emerged from the literature that construct clarity was lacking on business model innovation (Foss and Saebi, 2017). The findings clearly support the literature, this is perhaps due to the emergent nature of the concept (Wirtz, Pistoia, Ullrich, Gottel, 2016; Foss, Saebi, 2017). The findings suggest that business model innovation is also largely emergent in both industry and literature.

6.3 Research question 1: Antecedents

6.3.1 Antecedents

The research findings showed that client centricity was a driver to business model innovation. Client centricity was said to be understanding of client needs and assessing what made sense for the client. Changes to the business model are then affected based on the alignment of the current model to client needs. Risk management, collaboration between functional units and internal as well as external alignment were found to also be antecedents to business model innovation. These are new findings, this difference between the findings and the literature is possibly due to the predominant focus on external conditions relating to BMI antecedents (Ferreira, Proença, Spencer, Cova,

2013). These findings thereby extend the literature on antecedents to business model innovation.

The research findings show that changes as a result of tough economic conditions have resulted in subsequent innovations to the business model, this includes technological change and general market change. Conditions resulting from these aspects necessitated innovation of the business model. Associations can be drawn with the literature in this regard, for example Du, Leten, Vanhaverbeke, (2014) suggest the incentive for open innovation is agility in the face of complex markets and the prospect of equitable spread of risks. The findings as discussed in chapter 5 indicate that in difficult economic circumstances, open innovation was most attractive. This then results in the requirement to innovate the current business model.

A general openness to change was shown by the research to be an antecedent to business model innovation. Efficiency and the introduction of new products were found to be an antecedent to business model innovation. Efficiency relating to the limiting of waste, cost reduction and improving margins was also found to be among the drivers.

Similarly, in the literature cost reduction, process improvement, new products, market penetration and financial gain (Foss and Saebi, 2017) were underscored as antecedents. Furthermore, Calia, Guerrini, and Moura (2007) illustrate how technological innovation can prompt alterations to the commercial and operational structure of an organisation, thus the business model. Chesbrough (2010) argues that technology on its own has no inherent value, further efforts need to be employed by the business in order to realise commercial success. Björkdahl (2009) argues that a revised business model is required for value capturing when new products become available. In relation to technology Wirtz, Schilke, Ullrich, (2010) highlight the pace of technology changes and the impact to the behavior of consumers. Among the reasons provided by Günzel and Holm (2013) is the prospect for growth in size and market share. In addition, they suggest that firms undertake BMI as a means to identify new market avenues. They highlight competitive advantage and increased value creation as one of the reasons companies embark on business model innovation. The research findings therefore support the literature in this regard.

In relation to the environment required for business model innovation, the preconditions that were identified by the literature were trust, thinking out of the box, creating an environment where ideas can be heard and generated. In addition, there were also indications that open discussion that is focused on improving the business were a

necessary pre-condition for business model innovation. A constant state of searching for ways to improve the business and creating an environment where knowledge sharing is a culture was said to have resulted in business model innovation. In addition, a spirit that is entrepreneurial, engaging with clients and an existence of trust where there is sharing of ideas is required for business model innovation. In comparing these findings to the literature there was a lack of literature relating to internal antecedents of business model innovation (Foss and Saebi, 2017). Therefore, the findings in this regard extend the existing literature in relation to internal antecedents to business model innovation.

6.3.1.1 Capabilities

The findings indicate that building capabilities is key in overcoming constraints to business model innovation. When business model innovation was then undertaken making use of and leveraging capabilities that had been built, the participants indicated improved performance and competitive advantage as the outcomes. This improved performance was said to be increased revenue, growth, better efficiency and thus better margins. This finding supports the literature which suggests that dynamic capabilities increase the probability of competitive edge among firms (Camisón and Villar-López 2014; Michailova and Zhan, 2014). In addition, Camisón and Villar-López (2014) also assert that capabilities often catalyse innovation, particularly when technological capabilities are established. The research shows that the building of technological capabilities is a significant enabler for business model innovation, further affirming the congruency between the findings and the literature in this regard.

The research findings show that an enabler to business model innovation is the building of diverse teams. This supports the indications as detailed in literature, which suggests that dynamic capabilities include the building up of skill (Helfat, Peteraf, 2014). Furthermore, communication and rallying support and unity in undertaking business model innovation was key in terms of building capabilities in the context of business model innovation. These findings affirm the arguments of Helfat and Peteraf (2014) who indicate that part of the role of dynamic capabilities is in creating an environment that enables change i.e. redesigning and reframing the current business model. Furthermore, the findings support the use of dynamic capabilities in shaping the way in which adjustments in the organisation are received (Helfat, Peteraf, 2014; Ritter, Walter, Sienknecht, Coviello, 2018). The research shows that transparent communication that can garner support is a key capability in business model innovation.

The research further showed that where the cost of implementation for business model innovation is high, leveraging existing capabilities and budgets was key in enabling business model innovation. This finding affirms that assertions which suggest that dynamic capabilities include the building of assets (Helfat, Peteraf, 2014). Thereby contributing to the literature in this regard, as the research shows that building these capabilities also applies in the context of business model innovation.

The findings in this regard contribute to the literature on dynamic capabilities in the context of business model innovation, thereby contributing to the empirical basis which has largely been inadequate (Foss and Saebi, 2017).

6.3.1.2 Business model innovation process

The research shows that the process of business model innovation is a precondition for business model innovation. The findings suggest that part of the precondition for undertaking business model innovation involves creating an enabling environment. In so doing, a process of formalising certain processes that cultivate ideas, and foster the implementation is required. In this respect, the research shows that a phased process, involving collective effort across the organisation and including clients is undertaken. In this process, the beginning is ideas, creating an environment and or platform where these ideas are shared. This involved sharing between functions as well as sister companies across different locations. The aspect of formalising supports the literature that suggest that a rigid process is systematic and procedural with identified steps in the process (Günzel, Holm, 2013).

The findings in this regard indicate that once there are ideas generated that are considered viable, the formalising of the ideas was required in terms of creating an environment for business model innovation. This entailed a drive to tune the culture toward innovation from a practical sense. Furthermore, it was implied that support for boldness and encouragement for experimentation was built into the environment in order to enable business model innovation. The aspect of experimentation being a requirement supports Guo, Su and Ahlstrom (2016) who argue that the process of business model innovation is one which requires constant experimentation, exploration and a spirit of entrepreneurship to enable and foster the experimentation process.

The next step was found to be the testing or prototyping of the actual innovation. In some instances, the innovation resulted in an actual product which in turn informed the

changes to the current business model or what model would need to be adopted. The research findings show that all the said steps culminate in rethinking the current design of the business. This is also illustrated in literature by Velu and Jacob, (2014) who indicate that systemic changes are employed when the business model innovation process is undertaken. The research findings relating to the process of business model innovation reinforce the assertions of Martins, Rindova and Greenbaum (2015); Velu and Jacob, (2014) who suggest a process in business model innovation that combines a conceptual and systematic approach.

Dmitriev, Simmons, Truong, Palmer, and Schneckenberg, (2014) suggest that the process of BMI should be a continual one, the research findings affirm this argument. This is shown in the findings relating to drivers of business model innovation, where it was found that constant environment scanning is undertaken as an antecedent. Velu and Jacob, (2014) contend that the process of BMI involves reconfiguring the basis for competitiveness. They further indicate that system changes are employed when the process is undertaken, this shows congruence between the findings and the literature.

6.3.2 Constraints

6.3.2.1 General constraints

It has been shown from the data that one of the common constraints to business model innovation is the cost of implementation. Participants indicated that even when there are opportunities to innovate the business model, the lack of financial means to implement the new business model is a constraint. Associations between this finding and the literature can be drawn, Linder and Williander (2017) suggest that business model innovation requires capital expenditure which is often a challenge for the entrepreneur. The research findings extend the literature in this respect, as the cost of implementation was also found to be a constraint among incumbent firms in the services sector. This constraint however was not found among incumbent firms in the manufacturing industry, this is an area where further research is required as to why.

Resistance to change and complacency was also evident in relation to constraints to business model innovation. The tendency of the organisation to continue operating under the current status quo, particularly where such status yields some benefit to the organisation was found to be a constraint to business model innovation. There are associations that can be drawn between this finding and the literature. The literature

suggests that among the key constraints to business model innovation is the prevailing business model and the reluctance among managers to experiment with a new business model (Chesbrough, 2010; Patala and Laukkanen, 2014). This reluctance, is attributed to the dominant logic on value creation. Therefore the findings support the literature.

The research shows that the reluctance to share ideas in collaborative teams, a change resistant culture or mindset and an age of the workforce that is older and prone to stifling ideas are all elements that are constraints to business model innovation. This finding supports the literature, which suggests that the concept of barriers to business model innovation include structural barriers and culture (Patala, Laukkanen, 2014).

In contrast to the associations that were discovered between the findings and the literature, certain contrasts were discovered. The lack of specialised skills required to bring about the innovation to the business model was discovered to be a key constraint. Furthermore, a sparse geographical location of team members and a lack of market development in terms of technology and general market sophistication relative to first world markets emerged as constraints. However, the literature suggested that a conflict that exists between the current assets of the business as one of the key barriers to business model innovation Chesbrough (2010). Similarly Kim and Min (2015) emphasise the potential conflict of existing assets with a new business model as a barrier. Linder and Williander (2017) uncover various constraints to business model innovation in the context of a circular business model. They argue that because business model innovation requires testing, which involves third parties, there is inherent risk as a barrier. Studies also suggest the slow rate of adoption of the concept of business model innovation as a barrier (Patala, Laukkanen, 2014). None of these barriers were shown to be barriers by the research. The lack of studies with a comparative setting of incumbent firms and entrepreneurial firms (Foss, Saebi, 2017) is a possible reason for the lack of these constraints in the existing literature.

6.3.2.2 Constraints in the open innovation context

Foss and Saebi (2017) suggest that there are constraints in business model innovation that result in the open innovation context due to conflicting demands in these network relationships. The research shows, the business model innovation constraints that were experienced in the context of open innovation is the potential for losing clients to parties that are part of the collaboration in open innovation. The exposure of these parties to

clients often posed a threat to existing relationships due to the additional competition for the same business. This then becomes a constraint to business model innovation as it causes reluctance to explore business model innovation. Associations can be drawn between this finding and the literature, Garbardella and Panico (2014) contend that the party who assumes the most control over the assets in the open innovation gains the advantage. According to Garbardella and Panico (2014), the party who holds the decision-making power is the likelier to better exploit the open innovation network. In the context of the research finding, the party who control is the party with the most exposure to the client, as a result of the strength of the relationship.

The perception of the client relative to parties involved in the open innovation emerged as a constraint to business model innovation in the context of open innovation. Specifically, the finding in this regard is that, client's perceived established business as the better option, thus preventing the business model innovation attempt by the smaller business.

The findings in this regard thereby adds to and contributes to the existing literature.

6.4 Research question 2: Role, antecedents and constraints

The findings relating to the antecedents and constraints have been discussed under the sections relating to antecedents and constraints both in chapter 5 and six. In this section the aspect of role relative to the literature is discussed.

In chapter two the literature suggests that there is a lack of significant understanding on the role of the business model in open innovation (West, Bogers, 2014). The research showed that, the type of open innovation combined with the relevant context for business model innovation informs innovation of the current business model. In addition, the ideation process in innovating the current business model would involve external participants, over and above internal parties. The participants indicated that the current model would be innovated in accordance with what emerges from the open innovation activities and outcomes. In contrast, other participants indicated that the current business model played a model active role in the context of open innovation. It was said that the current business model would act as a benchmark for the new products and ideas that emerged from the open innovation efforts. Thus the current model was used as a gauge to measure results and a yardstick for reasonability of the

open innovation outcomes. It was also indicated by some of the participants that this often resulted in two parallel business models, where one resulted from the innovation efforts and the current was maintained to keep profits that were already established.

Furthermore, other participants indicated that undertaking open innovation resulted in the need for a re-designing of the current business model.

6.5 Research question 3: Outcomes

6.5.1 Entrepreneurial firms

In chapter two, it was indicated that further research is required on the outcomes of business model innovation among entrepreneurial firms (Cucculelli, Bettinelli, 2015; Ramirez, Tidd, 2014). In terms of the literature improved performance was suggested as one of the outcomes Dencker, Gruber (2015), similarly Love, Vather, Roper, (2013) suggest innovative firms have a high prospect of superior performance compared to firms which do not innovate. Guo, Tang, Su and Katz (2017) argued that the business model is vital for entrepreneurial firms converting market prospects to improved performance. Guo et al (2017) further argued that the appropriation of opportunities requires reconfigurations to the business model. They suggest that the business model is a mediator that leads to improved performance. Associations can be drawn between the findings and the literature in this regard. It was found that an increase in revenue was experienced as an outcome to business model innovation efforts. In cases where the business model innovation was linked to an output relating to a specific product, this product's revenue was measured separately to accurately measure and link the outcome of the business model innovation.

The literature relating to business model innovation outcomes among entrepreneurial firms lacked depth of insight on outcomes (Cucculelli, Bettinelli, 2015). It is therefore unsurprising that the research discovered further outcomes of business model innovation. These include efficiency and limitation of waste. Examples included the reduction of wasted material and increased volumes. Given that the firms consisted of an element of service in their business model and were thus likely to undertake business model innovation (Karpen, Bove, Lukas, 2012; Velamuri, Bansemir, Neyer, Moslein, 2013), the element of building strong relationships was understandably

evident in the data. To this end, the research shows that the outcomes of business model innovation are beyond performance, the outcomes extend to client engagement. This was said to mean the relationship between the businesses of the participants and the clients improved. This was due to participants being better able to meet the needs of the client as well as better alignment with client needs. It was also indicated that, the outcomes of the improved relationship as a result of the business model innovation had perceived long term benefits.

6.5.2 Incumbent firms

In terms of the literature, studies on the influence of business model innovation on firm performance have mainly been directed to incumbent firms (Gerasymenko et al, 2015). In this respect, the primary argument relates to how business model innovation leads to improved performance for example, Kim and Min (2015) suggest that the evidence on whether business model innovation improves performance is varied. They make reference to the performance of existing companies who innovated their business models by adjusting the delivery component of the business model. Evidence from retailers revealed that while some firms enjoyed improved performance as a result of the business model innovation, others gained insignificant revenues as a result. They suggest that while business model innovation can indeed improve performance. They argue that undertaking of business model innovation in isolation does not translate to improved performance. It is proposed that the current resources of the firm, plus business model innovation and the combination of managerial decisions is what ultimately leads to the improved performance (Desyllas, Sako, 2013; Kim, Min, 2015). In terms of the research findings, the outcome of improved performance was also evident among incumbent firms. In contrast to entrepreneurial firms, the outcome of improved performance among entrepreneurial firms was measured relative to the antecedent of client centricity. The areas of improvement were thus linked to the areas where alignment with client needs was most required. Revenue obtained as a result of business model innovations related to this was then measured to ascertain performance.

Guo et al, (2016) argue that the performance of a firm is improved when constant exploration is undertaken. They suggest that this approach to business model innovation is what improves the capabilities of the firm to better thrive and cope in dynamic markets. They further argue that the development of innovations enables

competitive edge, thus performance. The research findings affirm this assertion, it emerged from the data incumbent firms are constantly engaged in scanning the environment and are in a constant state of searching for improvement. This as an antecedent to business model innovation leads to improved performance. It is noted however that the aspect of competitive edge was only evident among incumbent firms in the service industry. There is a difference between the literature and findings in relation to competitive edge, as this was not evident among incumbent firms in the manufacturing industry. Guo et al, (2016) suggested more prominence of competitive edge as an outcome, yet the finding indicate otherwise.

The concept of corporate entrepreneurship is significant in relation to business model innovation (Karimi, Walter, 2015; Guo et al, 2016). Their study suggests that entrepreneurial traits such as risk taking are key for business model innovation adoption and thus better performance in the face of disruptive innovations. In chapter 5 the reference to the spirit of entrepreneurship among incumbent firms was outlined. Participants indicated that this was an aspect that was an antecedent to business model innovation efforts which in term resulted in increased revenue and thereby better performance. There is a clear association between the literature and the findings in this regard.

In addition to the areas of similarities the findings also extend the literature base, as further outcomes to business model innovation were discovered. In terms of the literature, improved performance; profitability and competitive edge were the main outcomes of business model innovation (Guo et al, 2017). However, the research shows that business model innovation improved client engagement. This was said to mean the relationship between the businesses of the participants and the clients improved, this finding is similar among entrepreneurial firms. It was also indicated that, the outcomes of the improved relationship as a result of the business model innovation had perceived long term benefits.

Internally some participants indicated that business model innovation had resulted in an energised work forced. It was said that business model innovation had resulted in a renewed sense of purpose among employees and leadership. From an overall company perspective, the winning of awards was cited as one of the outcomes of business model innovation, suggesting that performance also improved. Two participants referred to better competitive edge as a result of business model innovation. Participants indicated the demise of competitors and the increase in their

own market share as a measure of the competitive edge. It also emerged from the participants' indications that growth was a result experienced due to business model innovation efforts. This was said to include growth by footprint as well as profits and sales. When comparing these findings to the literature a number of additional outcomes were identified. While the concept of improved performance and competitive edge are evident in both the literature and the findings, there were further outcomes not present in the literature as illustrated in table 10 below. The predominant focus on incumbent firms and the gap on BMI outcomes among entrepreneurial firms (Cucculelli and Bettinelli, 2015) are a likely explanation for these new insights. Furthermore, one can conclude that the comparative setting between entrepreneurial firms and incumbent firms which had been previously inadequate (Foss, Saebi, 2017), is a factor that contributes to the additional outcomes identified by this study.

In terms of the findings on outcomes of business model innovation, the aspect of sustainability as an outcome of business model innovation presented a notable area of distinction. The literature suggests that there is an association between business model innovation and business sustainability (Pedersen et al, 2016). It is suggested that companies that confront business model innovation have a higher probability of addressing the aspect of sustainability (Pedersen et al, 2016). However, the research findings indicate a total absence of sustainability as an outcome to business model innovation. This may be due to context, given that Pedersen et al (2016) study was in business model innovation in corporate sustainability.

6.6 Industry and firm type comparison

It was indicated that further research is required on the outcomes of business model innovation among entrepreneurial firms (Cucculelli, Bettinelli, 2015). Furthermore, the empirical base of business model innovation is lacking (Foss, Saebi, 2017). In terms of industry setting, model innovation between entrepreneurial firms and incumbent firms were lacking (Foss, Saebi, 2017). By way of investigation of the antecedents, constraints and outcomes of business model innovation this study contributes to this gap. The research findings in this regard show that, in terms of the antecedents to business model innovation, client centricity was common in both the service and manufacturing industry. However, it was not mentioned as an antecedent in the service industry among entrepreneurial firms.

Change and cost reduction as antecedents to business model innovation followed the same trend, evident in both industries and not evidenced among entrepreneurial firms in the service industry. Efficiency as an antecedent to business model innovation emerged as a commonality in both industries and in all firm types. Collaboration as an antecedent was evident only in the services industry and not present in the manufacturing industry. Thinking out of the box was found among both industries, however was only among entrepreneurial firms.

Culture as a constraint to business model innovation was evident in both industries, however only mentioned among incumbent firms. Complacency as a constraint was found in both industries, however, in the service industry it was only evidenced among incumbent firms. In contrast, in the manufacturing industry complacency was mentioned among entrepreneurial firms. Resistance to change as a constraint was only present in the manufacturing industry.

In terms of the outcomes to business model innovation, client engagement which relates to the benefits and improvements to the relationship between participants and the client was common in both industries and all firm types. Efficiency was common in both industries, however was not mentioned among entrepreneurial firms in the service industry. Engaged employees as an outcome to business model innovation was evidenced in both industries, however, only mentioned by entrepreneurial firms in the service industry and incumbent firms in the manufacturing industry.

Unique results were identified in the data collected in terms of the comparison analysis, these are indicated in plain text in the table above. In relation to antecedents cross unit collaboration, entrepreneurial spirit, alignment, enable opportunities, knowledge sharing culture, constant search, open discussions on improvement, and market scanning were only evident among incumbent firms in the service industry. Profits and risk management only emerged as antecedents among entrepreneurial firms in the service industry. Obtaining buy in and stakeholder engagement were antecedents only in the manufacturing industry among incumbent firms.

Regarding constraints, geographical location, age of team and stifling of ideas emerged only among incumbent firms in the service industry. The current business model was only apparent as a constraint to business model innovation in the service industry among entrepreneurial firms. Race and regulation were unique to the manufacturing industry among entrepreneurial firms.

Finally, concerning the outcomes to business model innovation revitalized energy, renewed purpose and improved brand integrity emerged as outcomes in the manufacturing industry among incumbent firms. Diversity in product range and increased capacity were found to be unique to the manufacturing industry among entrepreneurial firms.

By way of study of firms where business model innovation is most likely (Karpen, Bove, Lukas, 2012; Velamuri, Bansemir, Neyer, Moslein, 2013), these findings thereby extend the literature and contribute to the gap in research (Foss, Saebi, 2017).

6.7 Conclusion

In this chapter, the findings relative to the literature were discussed these are summarized in table 10 below.

	Findings	Literature
Antecedents	<ul style="list-style-type: none"> Client centricity Cross unit collaboration Change Alignment Collaboration Profits Risk management Competitive edge Cost reduction Efficiency New products Entrepreneurial spirit Generating ideas Constant search Open discussions on improvement Enable opportunities Knowledge sharing culture Market scanning Thinking out the box Trust Getting buy in Stakeholder involvement 	<ul style="list-style-type: none"> Technological innovation New products Dynamic and complex environment Pace of technology and the impact to the behavior of consumers Prospect for growth in size and market share To identify new market avenues Competitive advantage and increased value creation Cost reduction, process improvement, market penetration and financial gain
Constraints	<ul style="list-style-type: none"> Caginess during collaboration Geographical location Complacency Cost of implementation Culture Current age of team an attitude to innovation Current model Multinational restrictions Race Regulation Resistance to change Skills Stifling of ideas Lack of market sophistication 	<ul style="list-style-type: none"> The prevailing business model Reluctance among managers to experiment with a new business model. Conflict that exists between the current assets Inherent risk Capital expenditure Structural barriers and culture Slow rate of adoption of the concept of business model innovation
Outcomes	<ul style="list-style-type: none"> Footprint growth Awards Client engagement Competative edge Diverse product range Efficiency Energy Engaged employees Increased capacity Marketing Purpose Revenue Improved skills Brand intergrity Control Limiting waste 	<ul style="list-style-type: none"> Improved performance; profitability Competitive edge Business sustainability

Table 10: Summary of findings versus the conceptual model based on literature (filtered by main research question).

With regard to the business model, it emerged that participants understood the business model to be the design of the business and the related activities. This finding indicated a congruence with the literature. The business model topology also indicated a general similarity with the literature, however opportunities and ideation were identified as components to the business model.

The findings on antecedents, constraints and outcomes of business model innovation relative to the literature are summarised above. Overall the findings extend the literature as argued in this chapter.

Chapter 7 provides the conclusion.

7 CHAPTER 7 CONCLUSION

7.1 Introduction

The objective of this research was to gain new insights relating to antecedents, constraints and outcomes of business model innovation. Therefore, the study explored *what the antecedents, constraints and outcomes of internal business model innovation are?* In chapter one, the lack of studies with empirical basis on the antecedents and constraints of business model innovation literature (Foss and Saebi, 2017) was outlined. The inadequate exploration of outcomes of business model innovation (Foss, Saebi, 2017; Ramirez, Tidd, 2014; Wei, Yang, Sun and Gu, 2014) and dearth of business model innovation studies among entrepreneurial firms (Cucculelli, Bettinelli, 2015) was established. In chapter two, a review of the literature was provided. It emerged that existing studies relating to business model innovation antecedents, constraints and outcomes mainly focused on external antecedents, constraints and outcomes (Ferreira, Proença, Spencer and Cova, 2013).

Considering the emergent nature of the business model innovation construct (Foss, Saebi, 2017), a conceptual framework based on the existing literature resulted as one of the key outcomes of chapter 2. In chapter 3, the research questions directed at the gap in relation to the internal antecedents, constraints and outcomes of business model innovation were presented.

Given the shortage of studies with a comparative setting of incumbent firms and entrepreneurial firms (Foss, Saebi, 2017), the sample of the study was obtained among incumbent firms and entrepreneurial firms. It is said that service as part of a firm's value proposition is a driver for business model innovation (Karpen, Bove, Lukas, 2012; Velamuri, Bansemir, Neyer, Moslein, 2013). Additionally, this is said to be the case particularly when a firm adds a service element over and above selling products (Nair, Paulose, Palacios, Tafur, 2013; Visnjic Kastalli, Van Looy, 2013; Visnjic Kastalli, Van Looy, Neely, 2013). Therefore, this study focused on the services and manufacturing industries. The results were then presented in chapter 5 and discussed in chapter 6.

This chapter proceeds with a summary of the key findings so as to set the context and association with the extended proposed conceptual framework for the antecedents, constraints and outcomes of business model innovation. Thereafter the implications

and recommendations for management and business in general are discussed. Finally the limitations of this study and suggestions for future studies are provided.

7.2 Principle findings

7.2.1 Antecedents

In terms of the research findings, client centricity was shown to be a driver to business model innovation. Client centricity was said to be understanding of client needs and assessing what made sense for the client. In addition risk management, collaboration between functional units and internal as well as external alignment were shown to be antecedents. This aspects as an antecedents are new findings. In relation to the environment required for business model innovation, the preconditions found were trust, thinking out of the box, creating an environment where ideas can be heard and generated. Open discussion that is focused on improving the business a constant state of searching for improvement and a knowledge sharing culture were said to be antecedents. A spirit that is entrepreneurial, engaging with clients and an existence of trust where there is sharing of ideas is required for business model innovation In chapter 6 a possible reason advanced for the difference between the findings and the literature was the predominant focus on external conditions relating to BMI antecedents (Ferreira, Proença, Spencer, Cova, 2013). These findings thereby extend the literature on antecedents to business model innovation, thereby contributing to the field which is emergent (Foss, Saebi, 2017).

The research findings showed that changes as a result of tough economic conditions resulted in subsequent innovations to the business model, this includes technological change and general market change. Associations were drawn with the literature in this regard. Du, Leten, Vanhaverbeke, (2014) suggest the incentive for open innovation is agility in the face of complex markets and the prospect of equitable spread of risks. A general openness to change, efficiency relating to limiting of waste, cost reduction and improving margins were shown by the research to be antecedents to business model innovation. These were congruent with the literature which states cost reduction, process improvement, new products, market penetration and financial gain (Foss and Saebi, 2017) are antecedents. Günzel and Holm (2013) suggest that firms undertake BMI as a means to gain competitive edge. The research findings supported the literature in this regard as competitive advantage emerged as an antecedent.

7.2.1.1 Capabilities

The aspect of building capabilities as an antecedent to business model innovation was shown to be significant by the findings. Leveraging existing capabilities to overcome constraints was found to lead to improved performance and competitive advantage. This finding supports the literature which suggests that dynamic capabilities increase the probability of competitive edge among firms (Camisón and Villar-López 2014; Michailova and Zhan, 2014). Building technological capabilities, building of diverse teams, communication, rallying support and unity in undertaking business model innovation were found to be key capabilities that are required as a precondition to business model innovation. The research further showed that where the cost of implementation for business model innovation is high, leveraging existing capabilities and budgets was key in enabling business model innovation.

Overall a congruency between the findings and literature were evident in relation to the types of dynamic capabilities that are specifically required as antecedents to business model innovation. These include technological capabilities Camisón and Villar-López (2014), building up of skill (Helfat, Peteraf, 2014), creating an environment that enables change and shaping the way in which adjustments in the organisation are received (Helfat and Peteraf, 2014). This is discussed in detail in chapter 6 section 6.3.1.1.

The findings in this regard contribute to the literature on dynamic capabilities in the context of business model innovation, thereby also contributing to the empirical basis in the business model innovation literature, which has largely been inadequate (Foss and Saebi, 2017).

7.2.1.2 Business model innovation process

The research showed that the process of business model innovation is a precondition for business model innovation. Formalising processes that cultivate ideas, and foster the implementation is required. The aspect of formalisation supports the literature that suggests that a rigid process is systematic and procedural with identified steps in the process (Günzel, Holm, 2013).

The aspect of experimentation being a requirement supports Guo, Su and Ahlstrom (2016) who argue that the process of business model innovation is one which requires constant experimentation, exploration and a spirit of entrepreneurship to enable and foster the experimentation process.

7.2.2 Constraints

7.2.2.1 General constraints

Cost of implementation, Resistance to change and complacency, the reluctance to share ideas in collaborative teams, a change resistant culture, and an aged workforce that that prone to stifling ideas were found to be constraints to business model innovation. A congruency of the findings and the literature was identified for example the literature indicates that capital expenditure which is often a challenge (Linder and Williarderr, 2017), a prevailing business model and the reluctance among managers to experiment (Chesbrough, 2010; Patala and Laukkanen, 2014) and structural barriers and culture (Patala, Laukkanen, 2014) as the constraints to business model innovation.

In addition, new constraints were discovered. The lack of specialised skills, sparse geographical location of team members and a lack of market development in terms of technology and general market sophistication relative to first world markets emerged as constraints. The lack of studies with a comparative setting of incumbent firms and entrepreneurial firms (Foss, Saebi, 2017) and was discussed a possible reason for the lack of these constraints in the existing literature.

7.2.2.2 Constraints in the open innovation context

Foss and Saebi (2017) suggest that there are constraints in business model innovation that result in the open innovation context due to conflicting demands in these network relationships. The research shows, the business model innovation constraints that were experienced in the context of open innovation is the potential for losing clients to parties that are part of the collaboration in open innovation. Associations were drawn between this finding and the literature, Garbardella and Panico (2014) contend that the party who assumes the most control over the assets in the open innovation gains the advantage. The findings in this regard thereby adds to and contributes to the existing literature.

7.2.3 Outcomes

7.2.3.1 Entrepreneurial firms

In chapter two, it was indicated that further research is required on the outcomes of business model innovation among entrepreneurial firms (Cucculelli, Bettinelli, 2015; Ramirez, Tidd, 2014). Improved performance was identified by the research as a key outcome to business model innovation. It was found that an increase in revenue was experienced as an outcome to business model innovation. Overall these findings supported the literature as discussed in chapter 6.

The literature relating to business model innovation outcomes among entrepreneurial firms lacked depth of insight on outcomes (Cucculelli, Bettinelli, 2015). It is therefore unsurprising that the research discovered new outcomes of business model innovation. These include efficiency and limitation of waste. The research showed that the outcomes of business model innovation are beyond performance, the outcomes extend to client engagement and improved client relationships.

7.2.3.2 Incumbent firms

In terms of the research findings, the outcome of improved performance was evident among incumbent firms. In contrast to entrepreneurial firms, the outcome of improved performance among entrepreneurial firms was measured relative to the antecedent of client centricity. The areas of improvement were thus linked to the areas where alignment with client needs was most required. These findings supported the literature which suggests business model innovation leads to improved performance (Kim and Min, 2015).

News insights relating to outcomes were identified by the research. Competitive edge, was not evident among incumbent firms in the manufacturing industry. Guo et al, (2016) suggested more prominence of competitive edge as an outcome, yet the finding indicated otherwise. An energised work force, a renewed sense of purpose among employees and leadership were identified as new outcomes. The winning of awards, the demise of competitors, growth by footprint as well as profits and sales were new outcomes. The predominant focus on incumbent firms and the gap on BMI outcomes

among entrepreneurial firms (Cucculelli and Bettinelli, 2015) are a likely explanation for these new insights. Furthermore, it can be concluded that the comparative setting between entrepreneurial firms and incumbent firms which had been previously inadequate (Foss, Saebi, 2017), is a factor that contributes to the additional outcomes identified by this study.

7.3 Expanded conceptual framework

In light of the new findings on antecedents, constraints and outcomes as summarized below an expanded conceptual framework is proposed as detailed in figure 3 below. It is evident from the study that addition antecedents, constraints and outcomes of business model innovation exist as illustrated by the research findings.

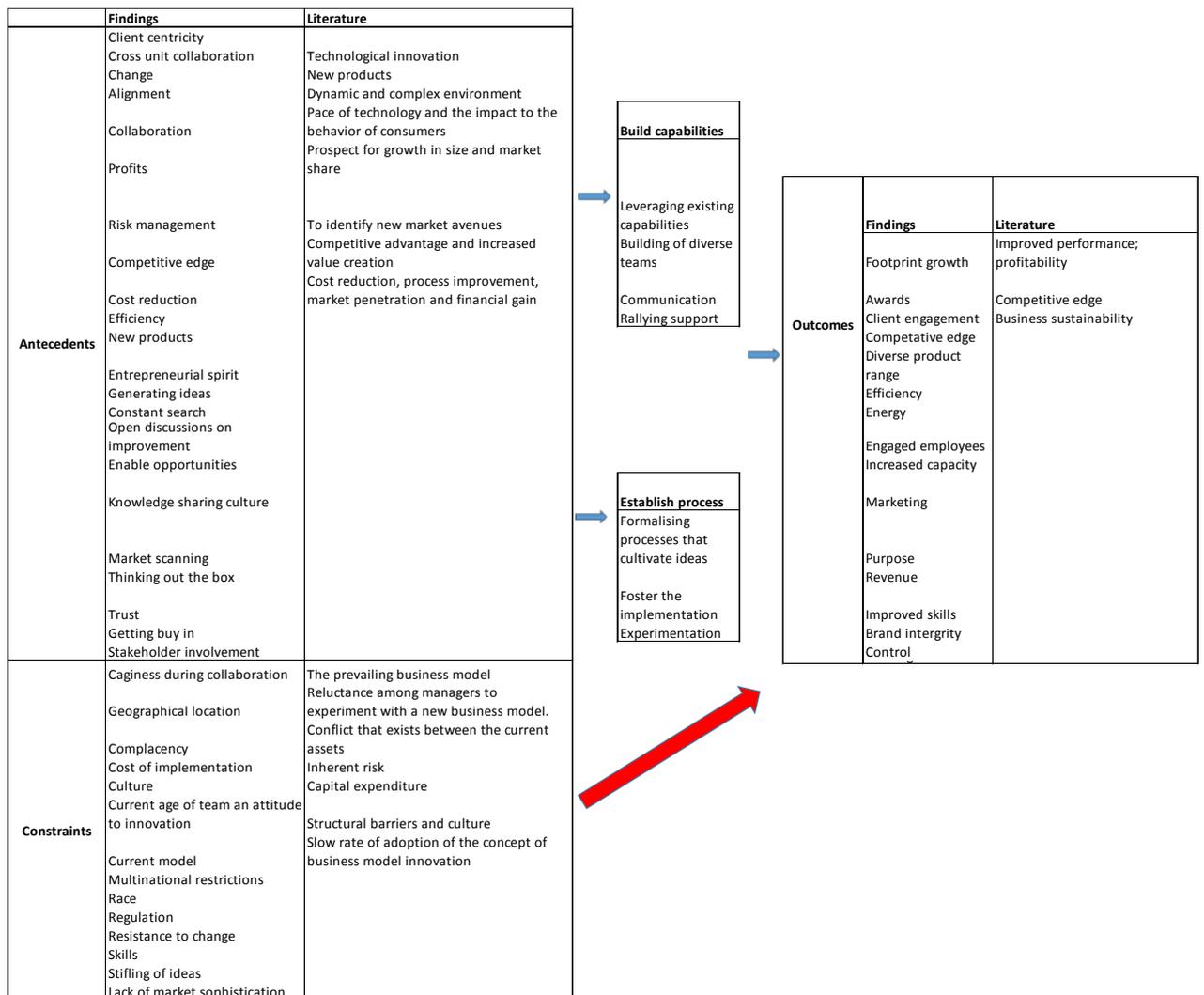


Figure 3: Expanded conceptual framework of antecedents, constraints and outcomes of business model innovation.

7.4 Implications for management

In chapter one the importance of business as a contributor to economic growth was highlighted. The role of entrepreneurial firms as a source of employment for many was also outlined. The findings of this research provide significant implications for business, both incumbent and entrepreneurial firms. For example, the aspect of improved performance, growth, limitation of waste, competitive edge, improved client relationships and client engagement all suggest that the concept of business model innovation is an important one to partake in. In addition, the element of competitive edge that was identified as an outcome, further adds to the importance of innovating the business model..

The antecedents identified in the study suggest that companies need to actively create an environment where business model innovation can take place. This involves collaborating cross functionally, constantly searching for ways of improvement, sharing of ideas and client centricity. Building capabilities and establishing a process for business model innovation is required if business seeks to implement business model innovation. Therefore business needs to be open to making financial and time investments in order undertake business model innovation.

Constraints to business model innovation are multi-pronged, the research indicates that should companies not successfully overcome these constraints, the positive outcomes of business model innovation may potentially not materialize for business.

7.5 Limitations of the research

Considering that this study was qualitative in nature with a sample of 12 participants, the degree to which the findings are generalisable are limited. However, the aim of the qualitative study is establishing transferability in order to explore how the insights may be applied in comparable contexts (Bloomberg, Volpe, 2012).

It is evident from the findings of the study that context relating to the industry yield varying results on the antecedents, constraints and outcomes of business model innovation. This is limited in that the scope focused on only two industries.

7.6 Suggestions for future research

The findings of this research suggest that opportunities and ideation are components of the business model. The insight in this regard extends the literature and suggests that the current composition of the business model is not exhaustive and possibly an area for future research.

This research has contributed to a better understanding of the role of the business model in open innovation, were there was a gap in this respect (West, Bogers, 2014). The research showed that, the type of open innovation with the relevant context for business model innovation informs innovation of the current business model. In addition, the ideation process in innovating the current business model would involve external participants, over and above internal parties. However, further research is required to on the specifics of how each component is innovated to provide deeper insight on the specific role of business model innovation in open innovation. This aspect fell outside of the scope of this research.

7.7 Conclusion

This study has provided new insights on the antecedents, constraints and outcomes to business model innovation. Furthermore, as one of few studies that focus on business model innovation in the comparative setting of both incumbent and entrepreneurial firms, this study expanded and contributed to the literature. The findings yielded implications for business and insights as to how business can maximise on business model innovation to benefit from the positive outcomes of business model innovation.

8 REFERENCE LIST

Abdelkafi, N., Täuscher, K., (2016) Business models for sustainability from a system dynamics perspectives. *Organization & Environment*, 29(1), 74-96.

<https://doi.org/10.1177/1086026615592930>

Abdelkafi, N., Makhotin, S., Posselt, T., (2013). Business model innovations for electric mobility – what can be learned from existing business model patterns? *International journal of innovation management*, 46(6).

<https://doi.org/10.1142/S1363919613400021>

Ahn, M., J., Ju, Y., Moon, T., H., Minshall, T., Probert, D., Sohn, S., Y., Mortara, L., (2016). Beyond absorptive capacity in open innovation process: the relationships between openness, capacities and firm performance. *Technology Analysis & Strategic Management*, 28(9), 1-31. <https://doi.org/10.1080/09537325.2016.1181737>

Amit, R., Zott, C., (2015). Crafting business architecture: The antecedents of business model design. *Strategic Entrepreneurship Journal*, 9(4), 1-45.

<https://doi.org/10.1002/sej.1200>

Appleyard, M., M., Chesbrough, H., W., (2017). The Dynamics of Open Strategy: From Adoption to Reversion. *Long Range Planning*, 50(3), 310-321.

<https://doi.org/10.1016/j.lrp.2016.07.004>

Baden-Fuller, C., Morgan, M., S., (2010). Business Models as Models. *Long Range Planning*, 43(2-3), pp. 156-171. doi: 10.1016/j.lrp.2010.02.005

Baden-Fuller, C., Haefliger, S., (2013). Business models and technological innovation. *Long Range Planning*, Volume 46(6), 419-426.

<https://doi.org/10.1016/j.lrp.2013.08.023>

Bansal, P., Roth, K., (2017). Why Companies Go Green: A Model of Ecological Responsiveness. *Academy of Management*, 43(4). <https://doi.org/10.5465/1556363>

Bloomberg, L. D., & Volpe, M. (2012). *Completing your qualitative dissertation (2nd Edition)*. United States of America: SAGE Publications.

Björkdahl, J., (2009). Technology cross-fertilization and the business model: The case of integrating ICTs in mechanical engineering products. *Research Policy*, 38(9) 1468-1477. <https://doi.org/10.1016/j.respol.2009.07.006>

Bucherer, E., Eisert U., Gassmann, O., (2012). Towards systematic business model innovation: Lessons from product innovation management. *Creativity and Innovation Management*, 21(2). <https://doi.org/10.1111/j.1467-8691.2012.00637.x>

Brunswick, S., Chesbrough, H., (2018). The Adoption of Open Innovation in Large Firms Practices, Measures, and Risks. A survey of large firms examines how firms approach open innovation strategically and manage knowledge flows at the project level. *Research-Technology Management*, 61(1).
DOI:10.1080/08956308.2018.1399022

Braun., V., Clarke, V., (2006). Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3(2). <http://dx.doi.org/10.1191/1478088706qp063oa>

Calia, C.R., Guerrini, F.M., Moura, L.G., (2007). Innovation networks: From technological development to business model reconfiguration. *Technovation*. Volume 27(8). <https://doi.org/10.1016/j.technovation.2006.08.003>

Camisón, C., Villar-López, A., (2014). Organizational innovation as an enabler of technological innovation capabilities and firm performance. *Journal of business research*, 67(1), 2891-2902. <https://doi.org/10.1016/j.jbusres.2012.06.004>

Carayannis, E., G., Sindakis, S., Walter, C., (2014). Business Model Innovation as Lever of Organizational Sustainability. *Journal of technology transfer*, 40(1), 1-20. DOI 10.1007/s10961-013-9330-y***

Chesbrough, H., (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43 (1) 354-363. <https://doi.org/10.1016/j.lrp.2009.07.010>.

Colombo, M., G., Piva, E., Lamasra C., R., (2014). Open innovation and within-industry diversification in small and medium enterprises: The case of open source

software firms. *Research Policy*. 43(5), 891-902

<https://doi.org/10.1016/j.respol.2013.08.015>

Crane, A., Palazzo, G., Spence, L.J., Matten, D., (2014). Contesting the Value of “Creating Shared Value”. *California Management Review*.

<https://doi.org/10.1525/cmr.2014.56.2.130>

Dahan, Nicolas M., Doh J., Oetzel J., Yaziji M., (2010). Corporate-NGO Collaboration: Co-creating New Business Models for Developing Markets. *Long Range Planning*, 43(1), 326–342. <https://doi.org/10.1016/j.lrp.2009.11.003>

Daniel, J, (2012). *Sampling Essentials: Practical Guidelines for Making Sampling Choices*. Sage publications.

Demil, B., Lecocq, X., Ricart, J.E., Zott, C., (2015). Introduction to the SEJ Special Issue on business models: business models within the domain of strategic entrepreneurship. *Strategic Entrepreneurship Journal*, 9(1), 1-11.

<https://doi.org/10.1002/sej.1194>

Dencker, C., J., Gruber M., (2015). The effects of opportunities and founder experience on new firm performance. *Strategic Management Journal*, 36(7).

<https://doi-org.uplib.idm.oclc.org/10.1002/smj.2269>

Dmitriev, V., Simmons, G., Truong, Y., Palmer, M., & Schneckenberg, D. (2014). An exploration of business model development in the commercialization of technology innovations. *R and D Management*, 44(3). <https://doi.org/10.1111/radm.12066>

Desyllas, P., Sako, M., (2013), Profiting from business model innovation: Evidence from Pay-As-You-Drive auto insurance. *Research Policy*, 42(1).

<https://doi.org/10.1016/j.respol.2012.05.008>

Du, Leten, Vanhaverbeke, (2014). Managing open innovation projects with science-based and market-based partners. *Research Policy*. 43(5), 828-840.

<https://doi.org/10.1016/j.respol.2013.12.008>

Felina, T & Zenger, T.R. (2014). Closed or open innovation? Problem solving and the governance choice. *Research Policy*, 43(5).
<https://doi.org/10.1016/j.respol.2013.09.006>

Flick U., (2014). An introduction to qualitative research, (edition 5). *SAGE publications*.

Freel, M., Robinson, P., J., (2016). Appropriation strategies and open innovation in SMEs. *International Small Business Journal*. 35(5).
<https://doi.org/10.1177/0266242616654957>

Foss, N. J., Saebi, T., (2017). Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go? *Journal of Management*. 43 (1). DOI: 10.1177/0149206316675927

Garmbardella, A., Panico, C., (2014). On the management of open innovation. *Research policy*. 43(5). <https://doi.org/10.1016/j.respol.2013.12.002>

George, Bock, (2011). The Business Model in Practice and its Implications for Entrepreneurship Research. *Entrepreneurship theory and practice*. 35(1). 83-111.
<doi.org/10.1111/j.1540-6520.2010.00424>.

Gerasymenko, V., Clercq, D., Sapienza, H., J., (2015). Changing the Business Model: Effects of Venture Capital Firms and Outside CEOs on Portfolio Company Performance

Guo, H., Su, Z., Ahlstrom, P., (2016). Business model innovation: The effects of exploratory orientation, opportunity recognition, and entrepreneurial bricolage in an emerging economy. *Asia Pacific Journal of Management*. 33(2). DOI: 10.1007/s10490-015-9428-x

Guest G., Bunce A., Johnson L., (2006). How many interviews are enough? An experiment an experiment with data saturation and variability. *SAGE journals*. 18(1

Günzel, F., Holm, A., B., (2013). One size does not fit all — Understanding the front-

end and back-end of business model innovation. *International Journal of Innovation Management*, 17(1). <https://doi.org/10.1142/S1363919613400021>

Guan, J.C., Chen, K.H., 2012. Modeling the relative efficiency of national innovation systems. *Research Policy* (41), 102–115

Guo, H., Tang, J., Su Z., and Katz (2017). Opportunity recognition and SME performance: the mediating effect of business model innovation. *R&D Management*. 47(3). <https://doi.org/10.1111/radm.12219>

Halme, M., Lindeman, S., Linna P., (2012). Innovation for Inclusive Business: Intrapreneurial Bricolage in Multinational Corporations. *Journal of Management studies*. 49(4). DOI: 10.1111/j.1467-6486.2012.01045.x

Helfat, E., Peteraf, A., (2014). Managerial cognitive capabilities and the microfoundations of dynamic capabilities, *Strategic management journal*, 36(6). DOI: 10.1002/smj.2247

Henkel, J., Schöberl, S., Alexy, O., (2014). How and Why Firms Adopt Selective Revealing in Open Innovation. *Research Policy*, 43(5). <https://doi.org/10.1016/j.respol.2013.08.014>

Huggins, R. and Thompson, P. (2015) 'Entrepreneurship, innovation and regional growth: a network theory', *Small Business Economics*, 41(5), 103-128. <http://dx.doi.org/10.1007/s11187-015-9643-3>

Kalak, I.E.I., Hudson, R., (2015). The effect of size on the failure probabilities of SMEs: An empirical study on the US market using discrete hazard model. *International Review of Financial Analysis*. 43(1), 135-145 <https://doi.org/10.1016/j.irfa.2015.11.009>

Karpen, I., O., Bove, L., L., Lukas, B., A. (2012). Linking service-dominant logic and strategic business practice: A conceptual model of a service-dominant orientation. *Journal of Service Research*, 15(1). <https://doi.org/10.1177/1094670511425697>

Kazmi, A.,B., Leca, B., Naccache, P., (2015). Is corporate social responsibility a new spirit of capitalism, *Organization*, 23(5). <https://doi.org/10.1177/1350508415619239>

Kim and Min (2015). Business model innovation performance: when does adding a new business model benefit an incumbent? *Strategic entrepreneurship journal*, 9(1). DOI: 10.1002/sej.1193

Kohler, T., (2015). Crowdsourcing-Based Business Models: How to Create and Capture Value. *California Management Review*. 57(4). <https://doi.org/10.1525/cmr.2015.57.4.63>

Landau, C., Karna, A., & Sailer, M. (2016). Business model adaptation for emerging markets: A case study of a German automobile manufacturer in India. *R&D Management*, 46(3). <https://doi.org/10.1111/radm.12201>

Lebedev, S., Peng, M.W., Xie, E., Stevens, C., (2015). Mergers and acquisitions in and out of emerging economies. *Journal of World Business*. 50(4), 651-662. <https://doi.org/10.1016/j.jwb.2014.09.003>

Lehoux, N., D'Amours., S., Langevin (2013). Inter-firm collaborations and supply chain coordination: review of key elements and case study. *Production Planning & Control: The Management of Operations*. 25(10) <https://doi.org/10.1080/09537287.2013.771413>

Lee, Y., Shin, J., Park, Y., (2012). The changing pattern of SME's innovativeness through business model globalisation. *Technological Forecasting and Social Change*, 79(5). <https://doi.org/10.1016/j.techfore.2011.10.008>

Lichtenthaler, U., (2015). A note on outbound open innovation and firm performance. *R&D Management*. 45(5). <https://doi.org/10.1111/radm.12138>

Linder, M., Williander, M., (2017). Circular Business Model Innovation: Inherent Uncertainties. *Business strategy and the environment*. 26(2), 182-196. <https://doi.org/10.1002/bse.1906>

- Love, H.J., Roper, S., (2013). SME innovation, exporting and growth: A review of existing evidence. *International Small Business Journal: Researching Entrepreneurship*. 33(1). <https://doi.org/10.1177/0266242614550190>
- Love, J.,H., Vather, P., Roper, S., (2013). Externalities of openness in innovation. *Research Policy*. 42(9). <https://doi.org/10.1016/j.respol.2013.05.006>
- Kim, B., Kim, E., Foss, J., N., (2016). Balancing absorptive capacity and inbound open innovation for sustained innovative performance: An attention-based view. *European Management Journal*. 34(1). <https://doi.org/10.1016/j.emj.2015.10.002>
- Kuckartz U., (2014). Qualitative text analysis: A guide to methods, practice and using software. SAGE publications Inc.
- Kumar, R., Nandakumar, P., Ghobadian, A., Duaneireland, R., Regan, N., (2018). Business model design performance relationship under external and internal contingencies: evidence from SMEs in and emerging economy. *Long Range Planning*, 51(1), 750-769. <https://doi.org/10.1016/j.lrp.2018.01.001>
- Massa, L., Tucci, C.L., Afuah, A., (2017). A critical assessment of business model research. *Academy of Management Annals*, 11(1). <https://doi.org/10.5465/annals.2014.0072>
- Marlow, C., Boone, S., (2011). Research methods for generalist social work, 5th edition
- Saldana, J., (2015). The coding manual for qualitative research. Sage publications.
- Martins, Rindova and Greenbaum (2015). Unlocking the Hidden Value of Concepts: A Cognitive Approach to Business Model Innovation. *Strategic entrepreneurship journal*. 9(1). <https://doi.org/10.1002/sej.1191>
- Mazutis, D.D., Slawinski, N., (2015). Reconnecting Business and Society: Perceptions of Authenticity in Corporate Social Responsibility. *Journal of business ethics*. 131(1), 137–150. DOI 10.1007/s10551-014-2253-1

Memili, E., Fang, H., Chrisman, J.J., Massis, A., (2015). The impact of small- and medium-sized family firms on economic growth. *Small business economics*. 45(4). DOI 10.1007/s11187-015-9670-0

Michailova, S., Zhan, W., (2015). Dynamic capabilities and innovation in MNC subsidiaries. *Journal of World Business*, 50(3).
<https://doi.org/10.1016/j.jwb.2014.10.001>

Morgan, D., (2013). Integrating qualitative and quantitative methods: a pragmatic approach, SAGE publications.

Nair, S., Paulose, H., Palacios, M., Tafur, J. (2013). Service orientation: Effectuating business model innovation. *Service Industries Journal*, 33.
<https://doi.org/10.1080/02642069.2013.746670>

Noor KBM., (2008). Case study: A strategic research Methodology. *American journal of applied sciences*, 5(11), 1602-1604

Nueman L., (2000). Social research methods: qualitative and quantitative approaches. Edition, 4. *Allyn & Bacon Incorporated*.

Olaison, L., Sorensen, B.M., (2014). The abject of entrepreneurship: failure, fiasco, fraud. *International Journal of Entrepreneurial Behavior & Research*. 20(2)

Øiestad, S., Bugge, M.M., (2014). Digitisation of publishing: exploration based on existing business models. *Technological Forecasting and Social Change*. 83(1), 54-65. <https://doi.org/10.1016/j.techfore.2013.01.010>

Patala, S., Laukkanen, M., (2014). Analysing barriers to sustainable business model innovations: Innovation systems approach. *International Journal of Innovation Management*. 18(06). <https://doi.org/10.1142/S1363919614400106>

Pederson, G., Gwozdz, W., Hvass, K.K., (2016). Exploring the Relationship Between Business Model Innovation, Corporate Sustainability, and Organisational Values within the Fashion Industry. *Journal of Business Ethics*. 149(2)

Priem R., L., Wenzel M., Koch, J., (2018). Demand-side strategy and business models: Putting value creation for consumers center stage. *Long Range Planning*. 51(1), 22-31 <https://doi.org/10.1016/j.lrp.2017.07.007>

Porter, M.E., Kramer, M.R., (2011). The Big Idea: Creating Shared Value. How to reinvent capitalism—and unleash a wave of innovation and growth. *Harvard Business Review*.

Rayna, T., Striukova, L., (2016). From rapid prototyping to home fabrication: How 3D printing is changing business model innovation. *Technological Forecasting and Social Change*. (102), 214–224 <https://doi.org/10.1016/j.techfore.2015.07.023>

Remane, G., Hanelt, A., Tesch, J., F., Kolbe, L., M., (2017). The business model pattern database: A tool for systematic business model innovation. *International Journal of Innovation Management*. 21(1).

Richardson, J., (2008). The business model: an integrative framework for strategy execution. *Strategic change*. 17(5-6). 133-144. <https://doi.org/10.1002/jsc.821>

Ritter, T., Lettl, C., (2018). The wider implications of business-model research. *Long Range Planning*. 51(1), 1-8.

Ritter, T., Walter, A., Sienknecht, M., Coviello N., (2018). Too Much of a Good Thing? The Nonlinear Effect of Dynamic Capabilities on New Venture Survival. *Academy of Management Proceedings*, 2018(1). <https://doi.org/10.5465/AMBPP.2018.241>

Saebi, T., Foss, N.,J., (2015) Business models for open innovation: Matching heterogeneous open innovation strategies with business model dimensions. *European Management Journal*, 33(3). <https://doi.org/10.1016/j.emj.2014.11.002>

Sánchez, P., Ricart, J., (2010). Business model innovation and sources of value creation in low-income markets. *European Management review*. 7(3)

Saunders, M., Lewis, P., (2012). Doing research in business management: An essential to planning your project, Pearson education limited.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students (5th ed.). Edinburgh Gate: Pearson.

Silverman D., (2013). Doing qualitative research. Fourth Edition. SAGE publications.

Schaltegger S., Freund F., Hansen E., (2012). Business cases for sustainability: the role of business model innovation for corporate sustainability. *Int. J. Innovation and Sustainable Development*, 6(2).

Schaltegger, S., Freund, L., Hansen, F., Erik G., (2016). Business Models for Sustainability A Co-Evolutionary Analysis of Sustainable *Entrepreneurship, Innovation, and Transformation*. 26(3), 264-289. DOI: 10.1177/1086026616633272.

Scherer, Palazzo, Matten, (2014). The Business Firm as a Political Actor: A New Theory of the Firm for a Globalized World. *Business & Society*. DOI: 10.1177/0007650313511778

Schneider, S., Spieth, P., (2013). Business model innovation: Towards an integrated future research agenda. *International Journal of Innovation Management*, 17(01). <https://doi.org/10.1142/S136391961340001X>

Spieth, P., Schneckenberg D., Ricart J., E., (2014). Business model innovation –state of the art and future challenges for the field. *R&D management*. 44(3). <https://doi.org/10.1111/radm.12071>

Tantalo, C., Priem, L.R., (2014). Value creation through stakeholder synergy. *Strategic Management journal*. 37(2), 314-329. <https://doi.org/10.1002/smj.2337>

- Taran, Y., Boer, H., Lindgren P., (2015). A Business Model Innovation Typology. *Decision Sciences*. 46(2), 301-331. <https://doi.org/10.1111/deci.12128>
- Teece, D.J., (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*. 43(2–3), 172-194. <https://doi.org/10.1016/j.lrp.2009.07.003>
- West, J., Bogers, M., (2014). Leveraging External Sources of Innovation: A Review of Research on Open Innovation. *Journal of Product Innovation Management*. 31(2) 814-83. <https://doi.org/10.1111/jpim.12125>
- West, J., Salter, A., Vanhaverbeke, W., Chesbrough, H., (2014). Open innovation: The next decade. *Research policy*, 43(5). <https://doi.org/10.1016/j.respol.2014.03.001>
- Wirtz, BW, O Schilke and S Ullrich (2010). Strategic development of business models: Implications of the Web 2.0 for creating value on the internet. *Long Range Planning*. 43(2). <https://doi.org/10.1016/j.lrp.2010.01.005>
- Wong, P., Ho Y., Autio, E., (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small business economics*. 24(3).
- Velu, C., & Jacob, A. (2014). Business model innovation and owner–managers: the moderating role of competition. *R&D Management*. 46(3) <https://doi.org/10.1111/radm.12095>
- Velamuri, V., Bansemir, B., Neyer, A., Moslein, K., (2013). Product service systems as a driver for business model innovation: lessoned learned from the manufacturing industry, *International Journal of Innovation Management*, 17(1). 10.1142/S1363919613400045
- Visnjic Kastalli, I., Van Looy, B. (2013). Servitization: Disentangling the impact of service business model innovation on manufacturing firm performance. *Journal of Operations Management*, 31(4). <https://doi.org/10.1016/j.jom.2013.02.001>
- Visnjic Kastalli, I., Van Looy, B., Neely, A. (2013). Steering manufacturing firms

towards service business model innovation. *California Management Review*, Volume 56(1). <https://doi.org/10.1525/cmr.2013.56.1.100>

Zott, C., Amit R., Massa L., (2011). The Business Model: Recent Developments and Future Research. *Journal of Management*, 37(4), 1019-1042. DOI: 10.1177/0149206311406265

Zott, C., Amit R., (2008). The fit between product market strategy and business model: implications for firm performance. *Strategic management journal*, 29(1), 1-26. <https://doi.org/10.1002/smj.642>

9 ANNEXURE A: CONSISTENCY MATRIX

Main research question	Sections in literature review	Sub-objectives	Source of data	Data analysis technique
<p>What are the antecedents, constraints and outcomes of internal business model innovation?</p>	<p>The Business model Innovation Business model innovation Antecedents Outcomes</p>	<p>Antecedents I. To understand what the antecedents to internal business model innovation are. Constraints II. To investigate the constraints to internal business model innovation. III. By exploring business model innovation in the context of open innovation, the objective was to uncover new insights on the role of the business model in open innovation and constraints and antecedents applicable in this context. Outcomes I. To understand what the outcomes of business model innovation are.</p>	<p>Primary data</p>	<p>Priora coding Axial coding Key theme identification</p>

10 ANNEXURE B: MEASUREMENT INSTRUMENT

Discussion guide: Semi structured

Part 1: Background

- 1) Tell me about your role in the organization and how did you get involved?
- 2) What is your understanding of a business model and business model innovation, any examples from your organisation?

Part 2: Antecedents and constraints

- 3) In your experience, what conditions are required for business model innovation and what are the constraints?

Part 3: Role, constraints and outcomes

- 4) What is your understanding of open innovation and how is business model innovation undertaken in that context, any examples from your organization?

Part 4: Outcomes

- 5) In your experience what have been the results/outcomes of your business model innovation efforts?

11 ANNEXURE C: SAMPLE OF CODES

Project: BMI research project rev1.1 15 september

Report created by ZamaM on 2018-11-06

Codes Report

All (117) codes

- **Antecedents: alignment**
- **Antecedents: collaboration**
- **Antecedents: enable opportunities**
- **Antecedents: Knowledge sharing culture**
- **Antecedents: Market scanning**
- **Antecedents: Profits**
- **Antecedents: risk management**
- **Antecedents: thinking out the box**
- **Antecedents: trust**
- **Antecedents: Relavance and alignment to the market**
- **BM Components: activities**
- **BM Components: clients**
- **BM Components: delivery**

-
- **BM Components: Execution**
 - **BM Components: Ideation**
 - **BM Components: Input, process, output**
 - **BM Components: manufacture**
 - **BM Components: Opportunities**
 - **BM Components: Pricing**
 - **BM components: revenue mix**
 - **BM Components: Supplementary functions finance etc**
 - **BM Components: supply chain**
 - **BM Components: value proposition**
 - **BM definition**
 - **BM Process: day to day culture**
 - **BM: Disruptive innovation**
 - **BMI Antecedents: Change**
 - **BMI antecedents: coming up with ideas**
 - **BMI Antecedents: Competitive edge**

-
- **BMI Antecedents: Constant search**
 - **BMI Antecedents: cost reduction**
 - **BMI Antecedents: Cross unit collaborations**
 - **BMI Antecedents: Efficiency**
 - **BMI Antecedents: Entrepreneurial spirit**
 - **BMI Antecedents: Getting buy in**
 - **BMI antecedents: new products**
 - **BMI Antecedents: open discussion on improvement**
 - **BMI Antecedents: Stakeholder involvement**
 - **BMI antecedents: technological change**
 - **BMI antecedents: client centricity**
 - **BMI components: design**
 - **BMI Components: design, manufacture, customer**
 - **BMI Components: service department**
 - **BMI Constraints: current operating model**
 - **BMI Constraints: geographical location**

-
- **BMI Definition**
 - **BMI Examples**
 - **BMI Meaning**
 - **BMI Outcomes: footprint growth**
 - **BMI Outcomes: awards**
 - **BMI outcomes: client engagement**
 - **BMI Outcomes: competitive edge**
 - **BMI Outcomes: Diverse product range**
 - **BMI Outcomes: Efficiency**
 - **BMI Outcomes: Energy**
 - **BMI Outcomes: Engaged employees**
 - **BMI Outcomes: growth**
 - **BMI Outcomes: increased capacity**
 - **BMI Outcomes: marketing tool**
 - **BMI Outcomes: measure is benefits realisation**
 - **BMI Outcomes: Purpose**

-
- **BMI Outcomes: revenue**
 - **BMI Process: Ideate, test, then design**
 - **BMI Process: Open discussions to hear and come up with ideas**
 - **BMI Process: Prototype**
 - **BMI Process: service department then execution**
 - **BMI Process: Test the technology**
 - **BMI Process: Testing the idea**
 - **BMI role in open innovation**
 - **Business model process: Institutionalised procedure**
 - **Capabilities: building a team**
 - **Capabilities: Building budget**
 - **Capabilities: building capacities for different clients with different needs**
 - **Capabilities: collaborating with suppliers**
 - **Capabilities: Communicating**
 - **Capabilities: Efficiency demonstrations**
 - **Capabilities: gaining intimate knowledge of client need**

-
- **Capabilities: leveraging existing capabilities**
 - **Capabilities: open innovation allows the building of capabilities**
 - **Capabilities: reporting directly to CEO**
 - **Capabilities: Skills from abroad**
 - **Capabilities: skills from outside**
 - **Capabilities: sourcing ideas from the parent company**
 - **Capabilities: stakeholder collaboration**
 - **Capabilities: technology for measuring outcomes**
 - **Capabilities: Transparency**
 - **Capabilities: upskilling employees**
 - **Capabilities: upskilling internally**
 - **Constraints: caginess during collaboration**
 - **Constraints: Complacent**
 - **Constraints: cost of implementation**
 - **Constraints: culture**
 - **Constraints: current age of team an attitude to innovation**

-
- **Constraints: current model**
 - **Constraints: financing**
 - **Constraints: Multinational restrictions**
 - **Constraints: race**
 - **Constraints: regulation**
 - **Constraints: resistance to change**
 - **Constraints: Skills**
 - **Constraints: stifling of ideas**
 - **Constraints: Technology SA behind**
 - **Constraints: lack of market sophistication**
 - **MBI Outcomes: measure is the market**
 - **Outcomes: Market share**
 - **Outcomes: New product introduction**
 - **Open inno constraints: pricing of resources**
 - **open innovation constraints: client perception**
 - **Open innovation constraints: client relationship security**

-
- **Open innovation constraints: commercialisation**
 - **Open innovation examples**
 - **Open innovation meaning**
 - **Outcome: improved skills**
 - **Outcomes: Brand intergrity**
 - **Outcomes: Control**
 - **Outcomes: limiting waste**
 - **Role of BM: rearchitecture**

12 ANNEXURE D: ETHICS CLEARANCE LETTERS

Gordon Institute of Business Science

University
of Pretoria

31 July 2018

James Zamashozi

Dear Zamashozi

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

15 August 2018

James Zamashozi

Dear Zamashozi

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee